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MANAGEMENT OF PREGNANCY, COMPLICATED BY ABDOMINAL TUMORS.*

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The subject of abdominal and pelvic tumors, associated with pregnancy, including as it must malignant growths, being so large a subject, I will confine myself entirely to the discussion of the management of ovarian and uterine tumors complicating pregnancy.

One of the gravest problems ever presented to a physician is the satisfactory settlement of this question. We not only have the interests of the mother to conserve, but the interests of one that is wholly unable to protect itself. On the satisfactory settlement of this question much depends, not only to the patient and her friends, but to the good name of the physician in charge and, indirectly, to that of the whole profession. While these cases are not common, they occur frequently enough to make this subject one of exceeding interest to every man engaged in the special work of this Section. I think I voice the sentiments of my hearers when I say that no class of cases coming under observation excites so much interest and anxiety as these. Little has been published in text-books on this subject. What little knowledge is to be gained is found in medical journals and society transactions. The present opinion of the profession on the subject is hard to obtain. I am inclined to the opinion that a large percentage of operators favor operation during pregnancy, in properly selected cases, rather than take the additional risk of complications arising in the tumor during the pregnant state. I am disposed to speak from personal experience, rather than quote the views of others, giving a short history of cases illustrating certain phases of the condition under discussion.

The danger of abortion or premature labor, following the removal of ovarian tumors, has been very much exaggerated. It is impossible before operation to have an intelligent idea whether or not any given patient will abort. Some of the most severe operations coming under my observation, where the greatest amount of trauma has been done in the pelvis and the pregnant uterus was most handled, have not had the least indication of abortion and have gone on to full term of gestation without any inconvenience. In other cases, with very much less injury and less handling and with everything more favorable so far as the patient and operation were concerned, the patients have aborted promptly. These facts should be thoroughly recognized and taken into consideration in every instance before advising an operation. In a large percentage of these cases the tumor is not recognized until several weeks after pregnancy occurs. The rapid increase in the size of the uterus and the increased blood-supply to the tumor favors its rapid growth in all uterine as well as in many ovarian tumors. The first knowledge that the physician has of the presence of the tumor is coincident with the knowledge that the woman is pregnant. He then finds himself in the embarrassing position of deciding the very grave question before us. I am strongly inclined to believe that the danger to the mother is not markedly increased by the fact that she is pregnant so far as the operation relates to the removal of ovarian tumors. Yet we must grant that no one would select the pregnant state as an ideal condition for operation. But if we see the patient, after she has been suffering several days from peritonitis, with a tumor holding a gallon or more of fluid and she is three or four months pregnant, and, at the time of our visit, extremely ill, the responsibility of advising for the patient becomes much greater and the danger of abortion is markedly increased, as illustrated in the following case:

Mrs. H., aged 35, was seen in consultation in January, 1890, with Dr. Fishburn of Cincinnati, Ohio. The patient herself had been conscious of the presence of a tumor for several months. She had been ill four days, from general peritonitis, at the time of my visit. Physical examination revealed the presence of an ovarian cyst and pregnancy at 4½ months. The diagnosis was ovarian cyst with twisted pedicle and general peritonitis. A further consultation was held the same day with Drs. Edwin Ricketts and C. A. L. Reed, and an immediate operation was decided on and made at once, Jan. 20, 1890. The diagnosis was confirmed. The patient did fairly well for thirty-six hours, at which time she aborted and died twenty-four hours later from her pre-existing peritonitis.

The case with which patients recover after the removal of an ovarian cyst in uncomplicated cases is illustrated in the following case: Mrs. H., aged 36, mother of three children, referred by Dr. Burnett of Greenville, Ohio, was operated on Sept. 23, 1893. The tumor had increased rapidly in size for several weeks. She was already suffering from dyspnea, and was greatly alarmed at her condition. She had a thin-walled ovarian cyst holding some two gallons of fluid and was five months pregnant. An immediate operation was advised. In five hours after operation uterine contraction came on. It was necessary to keep her fully under the influence of morphin for four days. Excepting this she made an uninterrupted recovery and was delivered of a healthy child at full term.

We are not always so fortunate as in this instance, as illustrated in the case of Mrs. W., referred to me by Dr. Sylvester of Wellston, Ohio, in June, 1894. She was suffering from a pelvic tumor the size of a cocoanut, which had greatly inconvenienced her for four or five weeks. She had been pregnant twelve weeks. The tumor occupied the true pelvis and the enlarged uterus was above and to the left side. The tumor could not be lifted

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out of the pelvic cavity. I advised an immediate operation because of the thin-walled ovarian tumor occupying the pelvis as it did. The operation was made June 16, 1894. On opening the abdomen I found that the pelvic tumor was an ovarian cyst that had developed from an adherent ovary on the right side. A portion of the cyst wall was adherent in such a manner that the tumor could not be lifted out of the pelvis until these old adhesions were separated. The operation necessitated much manipulation of the pelvis and handling of the uterus. The patient had always been an exceedingly nervous woman and was greatly excited before operation, which she dreaded very much. Within twenty-four hours after the operation she developed acute mania which continued several days, requiring restraint to keep her in bed. This, however, was transitory, and at the end of a week she was perfectly rational and otherwise had a smooth and easy convalescence; 6½ months later she was delivered at full term of a child which is now living. I advised immediate operation in this case because of the fact that the location of the tumor was such that she could not be delivered.

As emphasizing an assertion made earlier in my paper, that some patients abort exceedingly easily after these operations, I will briefly narrate a case coming under my observation recently.

Mrs. C., aged 25 years, was referred by Dr. I. W. Hall of Camargo, Ill.; married four years, one child 2½ years old. For three months she had suffered great pain from periodic obstruction of the ureter caused by a movable kidney. These attacks were becoming more frequent and more severe, necessitating the use of morphin for their relief. She also had a thin-walled ovarian cyst just large enough to block up the pelvic cavity thoroughly. The uterus was enlarged and lifted out of the pelvis above the tumor. The tumor could not be lifted out of the pelvis. The patient was seven weeks pregnant. On account of the frequency of the attacks of pain referred to, I advised an operation for fixation of the kidney and at the same time removing the ovarian cyst. The operation was made May 17. The kidney was anchored by the usual incision in the loin and the ovarian cyst removed by median incision, without difficulty. There was with thin-walled cyst a long pedicle. I placed the ligature fully an inch from the uterus. There was no manipulation of the uterus whatever. The wounds healed without a drop of pus. Her highest temperature was 99 and pulse 90 during her convalescence, yet she aborted at the end of forty-eight hours. The membranes were expelled within three hours after uterine contraction commenced. Otherwise the patient made an easy and perfect convalescence.

The case emphasizes the fact that in spite of all our care and every precaution that is possible, some of these patients will abort after similar operations, and my experience leads me to believe that when they do abort there is great danger of losing the patient. For this reason we should differentiate carefully as to which case should be advised operation. Every case should be law unto itself and be studied individually before any conclusion is reached.

The question of operation for fibroid tumors of the uterus during pregnancy is a much graver subject than that of operation for ovarian tumors. As a rule it must be considered that an operation for the removal of fibroid tumors means hysterectomy and therefore the sacrifice of the child. Fortunate it is for these patients that on account of the presence of the tumor they rarely become pregnant, yet there are instances occasionally coming before us, of a woman suffering from fibroid tumor of the uterus, who becomes pregnant and within a few months her suffering is greatly intensified and she seeks and demands relief. The question of the advisability of an operation must rest entirely on the conclusions in the individual cases. In a large number of those who do become pregnant the tumor is situated in the upper segment of the uterus, and there is a reasonable hope that the patient can be delivered of a living child in safety. These cases should be watched carefully, examined frequently, and the attempt made to carry them through the pregnant period so as to operate for the removal of the tumor at some more opportune time. We are aware of the fact that there are some cases suitable for enucleation of the tumor, and that if it be a suitable case for that method the child might be saved, yet it must be granted that it is not within the power of man, before opening the abdomen, to say positively that he could carry out such a procedure and he must always be prepared to do a hysterectomy if necessary.

A very interesting case came under my observation through Dr. Halderman of Portsmouth, Ohio, in September, 1897. Mrs. W., aged 32, no children, had been conscious of the existence of a tumor for many months. She was then about five months pregnant and suffered greatly from pressure. I saw her in reference to the advisability of operating at that time. I could then determine that the fibroid tumor occupied the upper segment of the uterus. There was no danger of it obstructing the passage of the child and I advised against operative interference for that reason. By extreme care she went to the full term of gestation and was delivered of a healthy child which is now living.

In contrast to this case I have a vivid recollection of another one: Mrs. J., a colored woman, pregnant with her first child, consulted me in 1891. The woman had a multinodular fibroid in the lower segment of her uterus. She was five months pregnant. An operation was advised and declined. She went to full term. After a protracted labor, lasting many hours, I was asked to see her with her physician. On arriving at the house we found our patient dead from ruptured uterus and internal hemorrhage.

In July, 1898, Mrs. C., of Portsmouth, Ohio, was referred by Dr. Rardin. She had been the subject of fibroid tumor of the uterus for many years. She was then pregnant four months for the first time, although she had been married six years. Since her pregnancy she had suffered greatly from pressure. She was unable to empty her bladder on account of pressure, and it was necessary to catheterize her for relief. The bowels could only be moved after giving her large quantities of physic and liquefying the contents. A portion of the tumor occupied the pelvis so as almost to present at the vulva. The pregnancy occupied the upper half of the uterus. There was no possibility of her being delivered through the natural passage. Her condition was so desperate that it demanded immediate relief. She was subjected to an operation as soon as the necessary preparations could be made. A part of the tumor occupied the left broad ligament. A hysterectomy was made without great difficulty. The patient execreted seven ounces of urine the first twenty-four hours and five ounces the second twenty-four, after which she had complete suppression and died in uremic coma on the fourth day. No autopsy could be secured. This was a case in which no choice was left for the operator other than an operation, unless he deserted his patient without making an effort to relieve her. The conclusions which may be

drawn from the cases reported can be briefly summarized.

The ease with which some cases recover, following removal of ovarian tumors, should not mislead us into the belief that there is no danger from abortion and its complications following the operation. Abortion at this time is attended with more risk than at any other and not a few of these patients die afterward, yet this fact should not deter us from advising and making the operation in all those cases where it is deemed advisable to do so after all the facts have been placed before us, even if the case is a desperate one. An operation promises something. We should not refuse to operate on any one where there is the slightest chance for recovery, if there is no chance for recovery without an operation. It is a duty that we owe to our patients to operate and give them the only chance, even if that is but one in a hundred.

I would advise operation for the removal of ovarian cysts in all cases where the tumor is small and fixed in the pelvis below the uterus; where the tumor cannot be lifted out of that cavity.

We should operate in all cases where there are any complications in the tumor itself, such as twisted pedicle, or ruptured cyst. Patients with inflammation in the abdomen, caused by the tumor, should be operated on.

I would hesitate to advise operation during the pregnant state for an ovarian tumor of moderate size that was above the uterus and where the tumor itself was too large to occupy the pelvic cavity, if the woman had not suffered from the tumor and there was no indication of any complication.

In fibroid tumors of the uterus, I would advise operation in all cases where the tumor occupied the lower segment of the uterus and it was in such a position that it would interfere with or prevent delivery at full term. The question as to when the operation should be made, as to the period of gestation, must depend on each individual case.

If the woman has passed four or five months of gestation and it is possible to carry her to or near the full term of pregnancy, the question as to saving the child must be discussed.

If the patient can be placed in good surroundings and operated on just before the full term, or at the time of the commencement of labor we could save both mother and child. But in many of these cases seen at three and one-half to five months of gestation, their condition becomes so intolerable that we are obliged to sacrifice the life of the child to save that of the mother. Their condition will not tolerate deferring the operation even for a few days. The long-continued pressure of a solid tumor in the patient's pelvis, damming back the urine on the kidney by pressure on the ureters, as it must in many of these cases, should have much weight in favor of immediate operation. Even if the patient should go to the full term of gestation and then be subjected to an operation, she would be in great danger of afterward dying from urinary complications. This is more likely to occur if the tumor develops in one of the broad ligaments; but, unfortunately, there is no choice in the matter in many of these cases; we must operate and accept the situation if we are to do anything at all for our patient. A man would be a coward to temporize in the face of such difficulties.

The question of what operations should be made should be left with each individual operator to use his best judgment at the time of the operation. The question of enucleation of fibroid tumors and saving the uterus is being favorably discussed by many operators, but whether or not that operation would often be selected in the pregnant state remains to be seen.

DISCUSSION.

DR. M. ROSENWASSER, Cleveland, Ohio—I agree with Dr. Hall as to operation for ovarian tumors complicating pregnancy; the operation should be done just as soon as it is possible. But with fibroids complicating pregnancy that is a difficult question, one in which each individual case must be judged by itself. It is not only the delivery that must be considered, be the tumor above or below, but also the consequences after delivery. A woman that is pregnant is liable to miscarry in the presence of a fibroid tumor; following miscarriage she may have severe hemorrhages and sepsis, conditions which are not the best for immediate operation. The same complications may arise at the end of full term, when again there is liability to severe hemorrhages in the presence of interstitial or intramural fibroids; consequently it is well to consider the advisability of operation while a woman is in good condition and to keep in mind these additional risks, besides the dysfocia. Within the past year I had a case in which the fibroid tumor was located above the child. The woman was confined at term; a severe postpartum hemorrhage occurred; within a few days she became septic. She was finally taken to the hospital. I had not seen her in the interval; she had become deeply septic; her condition would not warrant operation. I gave her medical treatment as offering the better chance, and she finally made a good recovery; the tumor has hitherto caused no trouble and she has not been operated on. This is, however, an exceptional case. Many cases die from sepsis. Two years ago I operated and lost a similar case. The point I wish to make is that in considering the proper procedure in fibroids complicating pregnancy, we must not only study the mechanical relation of tumor to delivery, but also the possible serious consequences that may follow a safe delivery and jeopardize the life of the patient.

DR. WILLIAM H. HUMISTON, Cleveland, Ohio.—This is an interesting subject, and, briefly, my position is this, that where we have ovarian tumors complicating pregnancy and they are not of enormous size, and do not encroach on the pelvic cavity, we can treat the case conservatively and allow the woman to go to term, and then remove the tumor or tumors after delivery. When we have multiple myomas, and some of them involve the lower segment of the uterus, and the woman becomes pregnant, the only safe procedure is to operate as early as possible.

DR. EDWIN RICKETTS, Cincinnati, Ohio.—I recall the case of a woman who, a number of years ago, suffered from an ovarian tumor and was delivered of three living children, she refusing to undergo an operation for the removal of the ovaries. The three children were born within five years. My friend, Dr. Hall, asks whether they were triplets. Under the management and treatment of the late Dr. C. Hall, of Marion County, contrary to all expectations, while this tumor was increasing, these three children were delivered and all saved.

As to fibroid, I recently had a woman who had a small fibroid in the upper segment of the uterus; I carried her to full term and delivered her, but came near losing her on account of postpartum hemorrhage. I had everything in readiness to do a hysterectomy in that case. While it is true that in ovarian tumors complicating pregnancy many women can be carried to full term, yet it is a dangerous procedure. I saw a woman not long since in whom at full term an ovarian tumor was present. The child was delivered dead and the ovarian tumor was punctured per rectum. Nine days after that the patient was crying aloud for abdominal section and begging for relief. The abdomen was opened, but no promises were made. What was the result? Two deaths. Dr. Rosenwasser has expressed the matter in a few words, that each case is to be judged by itself, and the physician should be ready to act in connection with the surgeon who may be called in consultation.

DR. G. B. MASSEY, Philadelphia—An element of danger can be avoided where it is decided not to operate for a fibroid complicating pregnancy, by having a battery at hand. It is impossible for a postpartum hemorrhage to continue if you have a primary faradic current at hand after the birth of the child. You have a contractile uterus; it is not a question of the arrest of hemorrhage as it would be in a hemorrhage fibroid, but of something to contract, a highly contractile muscular body, quick contraction of which would close the open blood-vessels. A piece of wire and rubber tube can be turned into an electrode, insulated, and thrust into the uterus, and in five minutes you can prepare the instrument. You can put one pole in the uterus, the other on the abdomen, spreading out the external electrode if you had a small ordinary desk by means of a wet towel to increase the efficiency of the contraction by lessening the resistance. While I speak of this in a theoretic way, I ven-

ture to assert that not one case would be lost from hemorrhage.

DR. EDWIN RICKETTS—The postpartum hemorrhage in this case occurred in three minutes after the birth of the child.

DR. MASSEY—By previous arrangement the five minutes I spoke of could be dispensed with; a second or two would be enough to stop the hemorrhage by turning on the current suddenly. It is not necessary to give a shock.

DR. J. HENRY CARSTENS, Detroit, Mich.—The question has always been, is a woman who is pregnant in a good condition to be operated on, and will she stand an operation as well as another woman? In my early experience I was a little timid, but in the course of time, with increased experience, I finally came to the conclusion that a pregnant woman can really stand an operation as well, if not better, than a non-pregnant one. I have been fortunate perhaps in my cases; in fact, I have gone so far as to say that a pregnant woman can stand almost anything. One day, however, I was sadly disappointed and had a patient die.

There is one other point to be considered, and that is the mental influence. When a woman knows she is pregnant and has a tumor, it has a very depressing influence on her mind. She is continually thinking and worrying about it, and I am inclined to favor an operation, other things being equal, because we relieve her mind, and her chances for recovery are just as good as when she is not pregnant. We can enucleate fibroids just as well when women are pregnant as when they are non-pregnant, and, in my experience, I must say they seldom abort, if we simply handle the tissues carefully and give them what we do when they are not pregnant—morphin after the operation, to quiet the nervous system.

DR. WALTER B. DORSETT, St. Louis, Mo.—This discussion as to the advisability of operating on fibroid tumors complicating pregnancy before term or afterward is an interesting subject from many standpoints. It brings to my mind a case I had while in charge of the St. Louis Female Hospital, several years ago, the woman having been admitted at about term. The tumor was not recognized at the time, although a careful examination had been made. It was not recognized until labor had fairly set in, when it was discovered that there was some obstruction to efforts at delivery with forceeps. The traction on the forceps made matters worse, when the woman was placed in the knee-chest position and delivered in that way. It was a case in which a thick-walled cyst got down behind the promontory of the sacrum and obstructed the passage of the child as well as the delivery by means of forceps. The woman was delivered in the knee-chest posture and an ovariotomy was done afterward.

One thing in regard to what Dr. Massey has said deserves some attention. In the presentation of the paper, as well as in the discussion that has followed it, it has been clearly brought out that a uterus with a fibroid tumor is prone to rupture. How does rupture take place? Is it not by the violent contractions of the uterus? If so, and if we apply the faradic current for the purpose of contracting the uterus, are we not much more liable to rupture the organ by electricity than if we were to use other measures. Stoppage of hemorrhage is due to contraction of the muscular fibers of the uterus. If we apply electricity, it seems to me the uterus is very much more apt to rupture than otherwise.

DR. CHARLES P. NOBLE, Philadelphia—It seems to me that the question of what to do with an abdominal tumor complicating pregnancy has passed the experimental stage, and that we have had enough experience on the subject to act from knowledge rather than from inference. I agree with what Dr. Carstens has said concerning operations done during pregnancy; we have most excellent results from them. Medical literature is full of cases in which tumors have been removed during pregnancy, and the results have been fully as good, if not on the whole better than the general average of patients that have undergone abdominal operations. The reason is obvious; these patients are not septic. If they had septic trouble they would seldom become pregnant; therefore, they are a class to themselves, and the results of operation are favorable. As to my own experience in dealing with ovarian tumors complicating pregnancy, if promptly removed, all of them have recovered. None of them have aborted. I believe this is the experience in the hands of others. Certainly, up to the eighth month, if I were consulted as to an ovarian tumor complicating pregnancy, I should advise taking it out, and I would most likely take it out if it were the ninth month. My experience in operating in the presence of the pregnant uterus is favorable. In the beginning I have felt it would be difficult to do the operation, but the situation practically settles itself, and the operation is scarcely more difficult than when the pregnant uterus is not present. I recently removed an ovarian tumor complicating pregnancy at the fifth month. This woman has had two ovarian tumors removed during pregnancy. It is very important to remove dermoid tumors during pregnancy, and others which happen to be adherent in the pelvis, because after labor takes place the tumors become inflamed and gangrenous, and no class of cases is more serious and more difficult to deal with satisfactorily than a gangrenous tumor after labor. If for any reason a small tumor has been overlooked during pregnancy and has been discovered during labor, I feel it is our duty to remove it at the conclusion of labor, because bruising sets up inflammation, if not gangrene, and the only time to deal satisfactorily with such a tumor is immediately after labor has been completed, and before gangrene sets in.

As to fibroids, I feel differently. I think the conditions must be extreme to make it advisable to remove a fibroid tumor during pregnancy. If we have a fibroid tumor of the cervix, it is possible to remove it per vaginam. It is quite possible to remove tumors of the fundus, of the corpus, but it is a question as to whether it is advisable. Dr. Carstens' experience in the matter of operating on fibroids during pregnancy is exceptional. The literature shows that the majority of these cases abort, and on this account, unless the size of the tumor *plus* the pregnancy interferes seriously with the patient's well-being, I myself believe the patient should be allowed to go into labor. So far as fibroid tumors are concerned, then, the conditions must be exceptional to make it wise to interfere during pregnancy.

DR. W. D. HAGGARD, JR., Nashville, Tenn.—With reference to the remarks of Dr. Noble concerning ovarian tumor complicating pregnancy and the wisdom of removing them after labor has terminated, I wish to speak of the case of a woman in her seventh labor, in whom there was noticed, immediately after labor, a small tumor in the left side about the size of one's fist. It began growing and was attended by elevation of temperature. At the end of six weeks after labor I saw her with a temperature of 104 degrees, and the tumor in the left side, roughly speaking, was about the size of a small Georgia watermelon. A diagnosis of ovarian cystoma was easy, but the complication that caused the elevation of temperature was not so plain. Abdominal section revealed, however, that the cyst contained pus, and there was considerable adhesion evidently at the point of leakage, to the posterior abdominal wall. The patient did nicely, and the case simply goes to accentuate the necessity for the early removal of these tumors. The only point of interest in the case was the remarkably rapid growth of the tumor in six weeks. The point of leakage and adhesion, the infected site, was up on the psoas muscle, so that the ordinary glass drainage was too long, and it was too high up for vaginal drainage. I cleaned out the cavity with peroxid of hydrogen and free irrigation, introducing a strip of gauze down to the point for drainage, and the point I wish to make now is one that we often notice, that gauze drainage does not drain. At the end of twenty-four hours, when pulling out the gauze, at least six or eight ounces of clear serum welled up out of the incision. I instituted gauze-in-gutta-percha drainage and the patient recovered.

DR. C. R. REED, Middleport, Ohio—If the statement made by the gentleman who has just taken his seat, that the majority of pregnant women who have tumors complicating pregnancy abort, is true, it is important to consider the question of instituting abortion or premature labor. This is an important matter for the physician to consider and will always come up where tumors complicate pregnancy. Let us suppose, for instance, that we have a woman who is from two to five months advanced in pregnancy; that her life is endangered by the presence of a tumor. In order to save her life and prevent the fatal results or dire consequences, would it not be well to consider the practicability of inducing premature labor? I do not think that question has been raised in the discussion so far.

DR. RUFUS B. HALL, closing the discussion—I regret not having had time to finish reading my paper, as it would have made clear some points that were apparently not clear to some of those who have discussed it. I am very glad that some of my hearers feel that the time for the experimental stage of operating in these cases has passed. I do not agree with them. One of the speakers said that he never had a case abort; that does not tally with my experience even in ovarian tumors. In one case narrated the woman aborted within forty-eight hours; there was not a single sponge put inside of the abdomen; no handling of the uterus. There was a non-adherent tumor, firmly imbedded in the pelvis, which was easily removed. She did not die. But if you have a case that has some complication you are called in three or four days after the patient is ill from peritonitis, and there may be some condition in the tumor that causes the peritonitis. Should you operate on such a patient she is very likely to abort; in fact, they almost always abort. These patients are very ill when you operate. If they did not abort they would have a hard fight for existence, and many of them die from the operation alone. If we knew what patients were going to develop some complication we could select the

operation when they are well, and there would be very little danger of aborting. Every one of those women with pre-existing peritonitis, in my experience, some four of five of them, have died. The fact that we cannot differentiate which patient is going to abort makes us cautious about advising operation in cases that can be delivered with the tumor present. I would hesitate in advising an operation on a woman with an ovarian tumor that gave no symptoms of trouble during pregnancy, believing that it would be much safer to wait until after she was delivered. As mentioned in the paper, we are often placed in a position where we have no choice of whether to operate or not, being governed by the conditions present. If the tumor is a fibroid of the uterus, and is situated in the lower segment of that organ and large enough to block up the pelvic cavity, the woman can not be delivered, and if such a woman has been under your observation for some time and is in the fourth or fifth month of pregnancy, you are compelled to operate to relieve her. Now let us reverse this condition: Supposing the tumor to be the size of a cocoanut, or four times that size, and there is no obstruction in the lower segment of the uterus, no obstruction to the delivery of the child, we do the patient an injustice to do either hysterectomy or myomectomy. We talk about patients not aborting when a myomectomy is done; they are fortunate if they do not. Many of them do, and such should not be operated on if they could be delivered with the tumor. I have seen them abort with a tumor not larger than an orange. Some of the patients abort on the second day and die a few days later.

PROPHYLAXIS OF UTERINE CANCER.*

BY W. W. GRANT, M.D.

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Cancer of the body of the uterus, as a primary condition, and independent of the cervix, is not common.

I assume that there can now be no discussion as to the proper treatment of uterine cancer, when the opportunity for early operation is presented. The field of preventive surgical disease is as interesting a study and imperative a duty as preventive medicine is to the general practitioner and sanitarian. Knowing the cause, we will in time discover and apply the remedy. In this day of perfected surgical technic and brilliant operative achievement, we are prone to overlook and underestimate the great work we can or may do, in preventing disease. In no respect can this interest us more than in reference to those diseases the inevitable tendency of which is to a fatal issue.

A more complete operation for carcinoma is more certain of attainment and more satisfactory, if performed early; hence, the mortality should steadily decrease. It would not be surprising if this generation witnessed a mortality not exceeding 25 per cent.

Cancer of the uterus is rare in virgins. Its common site is the cervix and its common victim the child-bearing woman. Observation and experience justify the belief that, as a lesion is such a common precedent condition to the development of cancer, it deserves to stand in a causative relation. There are few cases, if seen before being obscured by pathologic action, that will not show evidence of traumatism. Neither can it be regarded as inconsistent with the parasitic theory now under investigation. Recognizing that the injury is manifested in contusion and laceration of cervical tissues, we are in position to deduce more rational conclusions. The first is to give to Nature a freer hand in the dilating stage of normal labor, and the use of all possible care and gentleness, to limit traumatism, in operative procedures. Failing in these, the question occurs: Will timely repair of these tissues arrest retrograde metamorphosis and restore normal circulation, innervation and nutrition to the uterus? It certainly will, though this effect is manifestly influenced, in some degree, by the general condition of the patient.

The significance of such considerations must appeal to the conscience and judgment of every competent gynecologist. To restore the integrity of an organ is the first step in the prevention of more serious disease.

To emphasize the matter of causation and prophylaxis, I will reproduce recent statements of two distinguished authors only—Dührssen and Kelly. The former, strongly recognizing the great mortality in all countries, from cancer of the uterus, and the special danger of the climacteric from this disease, and accepting the belief of German pathologists that cancer develops only in epithelial elements, advises as a preventive measure, entire excision of the uterine mucosa, by a "T" incision through the anterior vaginal vault and body of the uterus, and, in some cases, high amputation of the cervix. These measures of prevention are new and seem needlessly harsh, if not dangerous, to be used for a mere suspicion or fear of malignant disease; and would prove inadequate in most cases of actual disease. Besides, as the aim is to destroy the epithelial tissues beyond regeneration, simple vaginal hysterectomy would seem a more feasible and desirable operation.

The desirability of medical supervision during the climacteric, and even before, must be admitted by all, in order to meet certain diseased conditions promptly. Kelly advises, as a measure of prevention, that every child-bearing woman of 30 should be examined by a competent physician and the performance repeated every few months, for the purpose of treatment if the lips do not appear sound; and that when the lips of a lacerated cervix are thin, uninfiltrated and lie together, no treatment is required; but, if the lips are thick and everted, with endocervical catarrh, they should be repaired or amputated; that every woman of 33, or over, who has a tear of the cervix, should be examined once a year for ten years, or longer, if the cervix does not appear *perfectly* healthy.

The importance of the condition in relation to cancer is unquestionably manifest. I hope it will be considered a fair attestation of my desire for more light, if I question the entire safety and wisdom of the admonition given, as *not* being a full and logical deduction from admitted premises. Is it the best service we can render, to permit a lesion to continue, that requires so much watching, care and attention for so long a time, and whose existence is a constant menace to the health and life of the woman?

My own belief is that the only safe course is to repair every appreciable lesion of the cervix, without waiting and looking for evidence of either benign or malignant disease. It is the only certain way to overcome the just apprehension of the physician, and to anticipate, with reasonable assurance, a constant danger to the lives of many women,—a danger that will not be met by a temporizing or tentative policy.

When will the time come that the general practitioner will see the necessity, or be able to convince women of the necessity, when feeling perfectly well, of submitting to periodic examinations, because of a threatened danger to health or life at some future time? It will be easier to convince both of the significance and importance of a safe operative procedure, both as a precautionary measure and to cure or to prevent a disease that is so frequently fatal.

Regardless of the existence of a cervical lesion, the necessity for unusual vigilance and care, as a preparation for and during the climacteric, must be conceded, and

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the propriety of inculcating it is a duty every physician owes to his patient. But, as an essential to substantial progress, the profession must be convinced as to the facts, before women will have even the opportunity of securing the benefits claimed.

The influence of a persistent, chronic irritant in ultimately causing malignant disease, is well known. Would a thorough surgeon treat the primary condition by the application of means that are chiefly provisional, or would he radically remove the offending agent, and the conditions that so frequently end disastrously? There should be no doubt as to the answer.

I removed the uterus for carinoma of the cervix by vaginal hysterectomy, on January 13, last, from a patient 68 years old, who had been so well for twenty-two years that she had not consulted a physician for any purpose whatever. She had given birth to two children before the age of 40; and, while the case illustrates the necessity of early examination, yet what would an examination, even at 50 have revealed, beyond a probable unilateral laceration as indicated by the ulcerated condition? The body is small and not diseased.

If the cervix had been infiltrated or thickened with endocervical catarrh, would it not have been manifested in the intervening years? With the laceration repaired, would not the chances for carcinomatous development have been diminished?

Trachelorrhaphy is not a dangerous operation. With all cicatricial and diseased tissue removed, the lips well adjusted and united, the most common pathologic condition antedating cancer of cervix is eliminated. If there is a predisposition to malignant action, cicatricial, which is always unhealthy, tissue, invites it. If there is no such tendency it often excites it. I feel convinced that, with all abnormal tissue removed, and the integrity of the organ restored, the mortality from uterine carcinoma will be still further reduced; and more certainly than by provisional methods, for delay is dangerous, and the trained sentinel is not always on duty.

It may be claimed that, in the young, active, childbearing period, the operation for laceration, when no apparent disease exists, is not so urgent, but a strong plea for prophylaxis exists, if it is not done before the climacteric begins or is concluded. No one need be deluded because some women with cervical laceration go through life without serious trouble. This gives no immunity to others, and no safe line of discrimination is practicable, if possible; and there is no satisfaction to the physician or surgeon who fails to give the patient, in time, the benefit of every known measure of relief.

JUSTIFIABLE ARTIFICIAL ABORTION AND INDUCED PREMATURE LABOR.*

BY W. C. BOWERS, M.D.

DECATUR, ILL.

After a number of years of observation and study I am led to believe that abortion, both accidental and criminal, is frightfully common in all grades of society. Justifiable artificial abortion is not comparatively common, neither should it be, but seems sometimes required to save the life of a woman. Induced premature labor is as likely to be required in the interest of the child as of the mother, and in some conditions may be done in the interest of both. Neither should be decided on without honest consultation and serious consideration. "If thorough antisepsis be practiced, therapeutic abortion adds little to the risks of the mother if carefully done. Otherwise it is often more fatal than the disease from which it seeks to deliver her."[2]

In any disease of a woman which is aggravated to so great a degree, because of pregnancy, as to endanger her life, and which can not be remedied so that she may live after labor, induced abortion should be considered in her interest; or, if late enough in pregnancy, in the interest of both mother and child. The possibility of waiting for the viability of the fetus should always be thought of if such a thing is possible without jeopardizing the woman's chances. The reasons for premature emptying of the uterus are many, but fortunately very few of them act with any degree of frequency, and the indications are rarely absolute.

It may be necessary to consider the procedure in a number of diseases and conditions. In nephritis, where eclampsia will probably occur if gestation proceeds or the woman's life be shortened by irreparable damage done, the kidneys as a rule, if albuminuria cannot be lessened and the general condition made better by milk diet, tonics and diuretics, an artificial abortion should be performed[4]. In advanced tuberculosis, in many cases, a woman's chances of recovery or longer life might be jeopardized by pregnancy, which in selected cases should usually be terminated as soon as discovered[4]. Aneurysm, unless superficially located, is an indication for prompt interference[8]. In the valvular lesions of the heart "success can only be expected if the pregnancy is terminated before the onset of serious symptoms[5]." L. Demelin[21] says that all depends on two grand conditions: 1, the anatomic-physiologic state of the myocardium; 2, the anatomic-physiologic state of the large emunctories—liver and kidneys—and that artificial abortion should be done in the gravest cases. In chorea gravidarum there is a marked tendency toward anemia, prostration and insanity[4]. A number of observers have reported favorably and a few unfavorably on the results of artificial termination of pregnancy, and "much after all must be left to the judgment of the individual observer as applied to the requirements of the individual case[22]." Peripheral neuritis of pregnancy, which is probably due to autointoxication, occurs as a rule late in pregnancy and may prove fatal. "One must be prepared to induce labor before the disease has advanced too far, for as soon as the uterus is emptied there is naturally a tendency to recovery."

Goiter depending on pregnancy is usually very vascular[6], and if constantly increasing in volume may cause death from suffocation, by compressing the trachea.[7]

Since treatment of goiter is so unsatisfactory, and intraglandular injection of tincture of iodin, the surest treatment, is so dangerous that it should now be entirely discarded[23], and since some time must elapse before symptoms are relieved, the goiter should not advance too far in size before ligation of the thyroid arteries is performed or the uterus is emptied. Both may be required. Pernicious anemia is a rare disease, but should pregnancy supervene, artificial abortion is justifiable if the anemia deepens in spite of good treatment. This is also true of leucocytosis. Diabetes mellitus in the pregnant is exceedingly rare, but not especially changed in its manifestations. The prognosis is unfavorable to the child and, from this fact and for the reason that many recover after the labor terminates, one should induce labor if the mother's condition prompts it.

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In eclampsia the indications for emptying the uterus are not always plain, as in not half the cases do the convulsions stop after the uterus is empty[3]. An old rule followed by many is to deliver immediately under an anesthetic, on the appearance of a fit. Some say that eclampsia depends on a disease of the kidneys peculiar to pregnancy, and for its prevention labor should be induced as soon as any considerable amount of albumin is found in the urine or the case gets progressively worse[23], because after the fits have commenced and the urine is solid with albumin the course of the disease is not affected by delivery.[24]

In cancer of the uterus, which is exceedingly uncommon in pregnancy, termination of pregnancy by artificial means is restricted to the later months of pregnancy[6], when if a vaginal hysterectomy is determined on an abortion shold be done two or three weeks beforehand.

Melancholia, hystero-epilepsy and insanity require close study in each individual case to determine how much the trouble depends on the pregnancy or is aggravated by it before radical measures are adopted. There is a strong tendency in these later days to interference with the increase of idiots, profound degenerates, and habitual criminals, so much so that castration[29] or reaction of the vas deferens[20] in males, and ovariotomy or tying[30] of the Fallopian tubes in females have been advocated. While interfering with pregnancy in these classes has not been openly advised, yet it has been suggested and is certainly to be thought of in properly selected cases.[20]

Irreducible displacement of the uterus, particularly if uremic symptoms are manifest[8], and old adhesions among the viscera above the pelvis[9], causing retroversion and retention of the uterus in the pelvis, are positive indications for interference.

Anteroposterior contraction of the pelvic inlet to approximately 2.36 inches, and occlusion of the genital tract by tumors, cicatrices, etc., call for interference unless the woman elect Cesarean section.[8]

Unavoidable hemorrhage is a sure occurrence in placenta previa, and abortion is almost without exception necessary, and by means that will control the hemorrhage at the same time[10]. In accidental hemorrhage, if the symptoms of loss of blood are considerable and not promptly relieved by rest and opium, pregnancy should be interrupted in the interest of the mother[2]. The membranes should be ruptured and ergot[3] and strychnia given. Marx[11] has lately reported a case in which repeated attacks of profuse epistaxis constituted the indication for the induction of abortion. The bleeding from the nose had occurred every three or four days for ten weeks and the woman was intensly anemic and in collapse. Medicine and plugging the nose had done no good. Accouchement forcé was done and a favorable result obtained.

In missed abortion, dead twin[6], and vesicular mole[12] the uterus should be emptied as soon as the condition is positively determined. Polydramnios calls for active interference if symptoms of overdistension persist or grave disturbance of the mother's heart supervene[3]. J. C. Cameron mentions as indications, jaundice with diarrhea, general edema and edema of the vulva, but these would surely be symptoms rather than diseases with rare exceptions. A premature labor might be induced in the interest of the child rather than do a post-mortem Cesarean section where the mother had a fatal malady from which she would be liable to die at any time; also if the children had perished in previous labors because of great size or because of disproportionate size. Probably the most common reason for interrupting pregnancy is hyperemesis gravidarum, which should not be allowed to proceed to "extreme exhausion, pain beneath the sternum, and coffee-ground vomiting[2]." Klein[13] says that it is especially important that these cases are not allowed to become severe before pregnancy is interrupted. To be pathologic, the "nausea must persist after the patient has arisen or be experienced when the patient is in the recumbent position."[2] Bacon[1] says that vomitus gravidarum may be defined as vomiting during pregnancy due to a variety of immediate causes acting on the abnormally irritable nervous system of the pregnant woman. Nausea and vomiting being only symptoms, the physician should not conclude that they are due to the mere condition of pregnancy until able to exclude all other diseases. My cases have been mainly those of hyperemesis, but show interesting features.

Mrs. V., aged 22, American, spare but well proportioned, was neurotic and a bad feeder; general health has been good, but has had "nervous spells" occasionally for years, and at times some dyspnea from no apparent cause; always had dysmenorrhea and constipation. I saw her in one of her nervous spells in May, 1893, when she was pale, very restless, and had dyspnea, and intermittent extreme weakness. Her heart and lungs were normal and no serious disease of any organ was found. Aromatic spirits of ammonia and Hoffman's anodyne relieved her promptly, and it was reasoned that the trouble was a manifestation of hysteria. Following this, sulphate of soda and tonics did her much good. A week after this sickness she menstruated, with pain as usual, but her general condition improved until some time after she missed her monthly, in June, 1893. Constant nausea and vomiting of white or greenish slime, with restlessness, poor sleep, loss of appetite, became a part of her symptoms and steadily increased until signs of exhaustion showed themselves. Chloral and bromid were carefully tried by mouth and rectum, morphia and atropia hypodermatically, bismuth and carbolic acid by the mouth, counterirritation, nitrate of silver to the cervix, and many other remedies. Cocain was given in lemonade, the only thing she could swallow and retain, but as soon as she learned that there was medicine in it, she promptly vomited lemonade. A. S. and B. pills stayed down and induced proper bowel movements. The sight of food or medicine or the smell of either and of perfume would bring on terrific vomiting. The urine was normal and passed properly and there was no pain nor headache, but she ached all over all of the time, and had a slight rise of temperature daily, was in motion day and night, although confined to her bed; and when apparently asleep, which was rarely, she was cognizant of all passing events. July 12, her condition was so alarming that counsel was called in and the cervix moderately dilated with steel branched dilators, carbolic acid applied within the cervix and pure nitrate of silver lightly applied to the vaginal face of the cervix. The vomiting became less for a few days but no other improvement appeared and the vomiting returning as bad as ever by July 20 an antiflexed uterus was dilated and curetted under ether. Plenty of decidua was removed, but no signs of a fetus could be found. Uterine douching followed the curetting, and careful cleaning of the genital tract preceded it. Vomiting and nervousness was relieved for three days, when it started up again as did also some fever. The modest use of the dull curette, removing a few fragments of

decidua, and a rather free intrauterine douche stopped the nausea and moderated the fever. No medicine was given and no food could be taken because of the anorexia. A sip of lemonade taken frequently seemed to be retained, but water, iced, cool, or hot, was vomited the same as anything else. July 28 a relapse of vomiting with severe pain in the abdomen came on with increasing fever. A few small pieces of decidua were again removed with the dull curette and douche, and a rectal suppository of belladonna and opium gave prompt relief, and she sat up some after two days. From the first curettement she had an insatiable desire for iced lemonade and a loathing for every other form of food and drink, but constipation being troublesome and as severe stomatitis showed itself, iced drinks and especially lemonade, were forbidden, and milk and lime-water or animal broths were to be drunk whether vomited or not. Two 5-grain doses of calomel were given two hours apart. A moderately strong solution of chlorate of potash was used to keep the mouth constantly moistened, and a little swallowed every three or four hours. Constant improvement started in, interrupted at times by attacks of acute indigestion, which were always relieved by moderate purging with calomel, placed dry on the tongue, as it in any other form or any other drug was promptly vomited. Carbonized vaginal injections were used daily from the time of the first curettement. She drove out at the end of the third week, when she weighed 72 lbs., her average weight being 115 lbs. She was in fine health four months later and has had easy monthlies ever since. She is yet troubled at times with nervous dyspepsia and hysteria near menstruation time, relieved by correcting indigestion and especially by the free and prolonged use of the tincture of asafetida. She has had two fine children since 1893, with only moderate disturbance, and to-day has excellent general health.

Mrs. F., aged 31, married ten years, never pregnant, sometimes constipated a week at a time, which was often followed by diarrhea, had always slept well, worked hard on a farm, and always had good general health, but for the past year had leucorrhea, and menorrhagia with clots. On Feb. 25, 1896, she suddenly stopped flowing midway in the monthly, without apparent reason. April 1 she became nauseated, dizzy, and slept only half the night. She was partially relieved by general treatment, but on April 18 nausea, loss of appetite, inability to sleep, and a general decline forcing themselves on the scene, a careful search for local trouble was made. There was no tenderness in the genital tract or pelvis; but in the wall of the uterus, apparently at the junction of the right Fallopian tube, and the uterus was a goose-egg-sized tumor which was sensitive. The uterus was freely movable, somewhat enlarged, and the cervix softened, and some endocervicitis with erosion manifest. My suggestion of pregnancy was laughed at by the woman and her friends. I applied pure carbolic acid to the os, tincture of iodin to the cervix, placed a glycerin tampon and dusted the vagina with boric acid. Bismuth before meals, bromid after meals, laxatives, warm carbolized vaginal injections with the one local treatment relieved her very much for a few days. On April 20 severe nausea and vomiting with bad diarrhea was much relieved by calomel by the mouth and chloral and bromid by the rectum. Following this daily hypodermics of morphia and atropia relieved her some, but not being under any positive control, as she was not in a hospital, and thinking herself not pregnant, she attempted to stay up and about the house, but an error in diet brought her down again. The morphia and atropia held the vomiting to a moderate amount, but the condition of the patient by May 1 was so serious owing to rapid anemia, debility and slight fever, that a consultant was called who verified my diagnosis of pregnancy and advised therapeutic abortion unless debility ceased to increase. For the next week the wasting of the body and the increasing exhaustion was alarming. On May 9, after thoroughly cleaning the field of operation, I dilated the cervix three-fourths of an inch with a two-bladed steel dilator, and on May 10, morning and evening, to about one inch each time, which was followed by slight pains through the day, while on May 11 there was sharp pain for an hour, followed by a gush of blood and terrific vomiting. In the evening I introduced a sound and found the uterus five inches deep. She slept well most of the night, except for a few spells of vomiting. She took nothing but ice and her vomit was a greenish slime. On May 12 I dilated the cervix one inch, and at noon sharp pains came on for an hour, the patient felt something give way in her side and nearly fainted. The pains ceased, there was no hemorrhage and she rested well until evening, except for two hard vomiting spells. May 13 I found the uterus more rounded and fuller and the tumor gone from the original site. The cervix was dilated to 1¼ inches, followed by regular labor pains and at 9 p. m. a live fetus was born by breech presentation. The length was 3½ or 4 inches, the cord 3 inches and not much twisted. The time of pregnancy was about three months. The membranes and placenta were removed by the large dull curette and finger, under chloroform, followed by a copious hot creolin douche. The woman had a ravenous appetite the next day though she vomited once, and recovered slowly but completely with but little flow, no pain and no fever, and to-day is in excellent health.

This must have been a tubo-uterine or an interstitial pregnancy, and had the nausea moderated or vomiting ceased after the tumor changed its place, I should have made a great effort to have saved the conception. This case shows that the treatment of dilating the cervix for pernicious vomiting is not a certain remedy; the reason for the repeated dilatations was that each time they neither stopped the nausea nor caused sufficient irritation to bring on the pains.

I saw the following case Sept. 11, 1898, with Dr. W. P. Davidson of LaPlace, Ill., and obtained the following history and conditions. While an abortion was not induced I have often regretted that I did not commit one as soon as she improved some, and thereby give her the best chance for her life as the ending of the case seemed to show. Mrs. F. G., an American, aged 32, was the mother of four children, who were perfectly well, except the oldest, who is 12 years old and has a bifid lumbar spine with complete paraplegia. The mother had a miscarriage the first year of her marriage and in the spring of 1896. The last miscarriage made her have irregular, painful and profuse monthlies for about a year, when she was curetted with complete relief. In 1897 she had severe subacute rheumatism, which disabled her right hand for six months. With the exception of these troubles she had good health. She always vomited when pregnant, amounting to hyperemesis with the fourth pregnancy only and was relieved by one hypodermic of morphia and atropia followed up with chloral and bromid of potash and by hygienic attention. In May, 1898, she had three days' hemorrhage like a monthly, in June two days, in July one day at

two different dates, and in August a few hours. She commenced being sick by having a severe diarrhea about two days in each week. Some blood was seen in the stools three different times about the first of August. In the last week in August she commenced to feel nausea and vomited almost incessantly day and night, had thirst, but loathed food, and got but little sleep and at night only. September 11 her weight was 120 lbs., having lost 20 lbs. in two months; pulse 100; temperature 99.5; respiration 32. The urine was normal sclerotic yellow. The tongue had a blackish coat. She had unquenchable thirst, retained no food and did not want any, and kept down a little whisky and water and limewater. The uterus was movable, normally situated, and enlarged to two or three months' pregnancy. The vaginal and cervical mucosa was red, soft, eroded and bled easily.

A mixture of iodin and carbolic acid was applied, and a creolin and glycerin tampon was placed against the cervix, and if it had any effect it made the erosion worse. Nitrate of silver, 40 grains to the ounce, was applied several times with no benefit. Alum and carbolic acid injections were used with probably some local benefit; most of the general remedies for such a case had been tried with but little benefit. Therapeutic abortion was talked of, but the danger of sepsis seemed so great in this case and the probability of some serious disease, not determined, complicating the pregnancy, and the family desiring to try other means first, this treatment was postponed. Morphia ¼, atropia 1-150, was given hypodermically, and she vomited only five times in the next forty-eight hours. Nutrient enemas were given, as were also saline enemas at irregular intervals, and the morphia and atropia depended on twice a day to give relief from the horrible nausea. After ten days the jaundice was less and the other symptoms had moderated, but ability to take food was not better and the morphia was being constantly, though not rapidly, increased, as is usual when it is given in such cases, and she had in the meantime vomited blood and passed blood in the stools. About October 1, stomach feeding was impossible, anemia was severe, there was pain under the sternum, the pulse increased to 140 and the thermometer showed rise of temperature. She also complained of blindness but the cause could not be determined. Other consultants about this time concurred in the opinion of probable pregnancy and believed it complicated with malignant disease. A post-mortem examination was not obtainable, so the correctness of our conclusions could not be known.

In view of the difficulty of making a certain diagnosis of cancer in any particular case, and from the fact that many pregnant women recover with astonishing rapidity after abortion or labor in what appear to be desperate cases, it is possible that this woman could have recovered had an abortion been induced at the time o her improved condition.

Mrs. A. H. B., an American, aged 39, robust looking, weight 125 lbs., low in stature and neurotic, gave a history of having had headache all her life, diphtheria at 18 years of age, and stomach trouble ever since. Her appetite was usually good, but starchy foods often caused belching and sour stomach, but she was never constipated. She has had painful monthlies since her first child was born, though about normal before then. Three living children have been born to her by slow, hard labors, and she has had no miscarriages. Nausea was quite troublesome with all pregnancies, and especially so with the last one about 1893. A trachelorraphy was done for her in 1889, and benefited her, as her uterus was heavy and prolapsed at that time. In 1892 a moderate prolapse must have been mistaken by some physician for an elongated cervix, for he had cut it off at the utero-vaginal junction and left it to cicatrize without suturing. Her last monthly, before this sickness, occurred the last of September, 1898, and the first nausea about the middle of November. The uterus was retroverted, not freely movable because of its position and its moderate enlargement. No unusual tenderness was felt anywhere and the peculiar round scar with the cervical opening in the center, unlike a normal os, was felt in the upper part of the vagina close to the pubes. The nausea and vomiting of some mucous and greenish fluid was often repeated and awful. An intense pain was felt in the stomach on swallowing anything; and anorexia was complete. Every form of treatment was tried without avail except that chloral and bromid by the rectum gave her some sleep at night, though it did not relieve the nausea and vomiting. The uterus could be replaced without much force, by dragging down the cervix with a tenaculum and pressing up on the fundus through the posterior cul-de-sac, but could not be retained by the means tried as it was easily displaced by the force of vomiting. She had pleasant surroundings and good and efficient care, but the consultant and myself decided that in view of the fact that no manner of treatment seemed to benefit her, the difficulty of keeping the uterus from becoming retroverted was so great, and because she was needed in her family, they being wage-earners could illy afford to have her so sick for a long time, a therapeutic abortion was a reasonable procedure. This was done under chloroform, Nov. 25, 1898, by dilating with steel branched dilators and curetting with the sharp curette, removing much decidua, but no part of the fetus was found. Thorough douching was done with hot 2 per cent. creolin solution and an occlusion dressing put on. She got better rapidly but much care in diet and medication was necessary for some time, and chloral and bromid by the rectum was needed several times to relieve severe insomia. At present she is in good health.

While no operation was done on the following patient, the case is one which illustrates the symptoms, principles of treatment and desperate condition into which these patients sometimes get and yet recover; also from the fact that the hyperemesis occurred late in pregnancy only.

Mrs. J. E. H., an American, aged 42, small, spare built, nervous, active, plucky and not hysteric, as a child suffered considerably with night croup, and later had typhoid fever and was always spoken of as a sickly girl. Her first monthly occurred at the age of 16, was very profuse and accompanied by epistaxis. She had no more monthlies until after marriage, at the age of 19, when a menstruation occurred within the first month, and was painful. She had no more, as she became pregnant. Of late years she has been more nearly normal with her menstruation. She had two children from her first marriage and no severe nausea during these pregnancies; from the second marriage, three children, all these pregnancies showing a considerable nausea. There has also been one molar pregnancy which terminated without unusual disturbance. The last menstruation preceding this sickness occurred April 2, 1898. Nausea and vomiting developed about a month later and kept up until by September it became so severe that a homeopathic physician was called in to prescribe for

her. The vomiting was so terrific and the case looked so desperate that his nerve soon gave out and he was glad to have the patient go to someone else. My colleague, Dr. E. J. Brown, took charge of the case about the last of September and gave her some good rest and sleep by using morphia and atropia by the hypodermic method.

She had not been able to keep food down but for a few minutes at a time for several weeks, but under the influence of hypodermic injections twice a day no vomiting occurred for several hours each time, when buttermilk could be drunk by icing it, although there was a loathing of all forms of food. The case fell into my hands through the Doctor's courtesy, he being obliged to leave home not long after taking the case. The vomit was greenish, resembling chewed spinach, enormous in quantity, but at times a smaller quantity resembling coffee grounds would be thrown up. There finally appeared a constant pain in the stomach and under the sternum. This pain was for a time relieved by the morphia, as was also the nausea and vomiting, by increasing doses but for shorter and shorter intervals. She had a severe and constant pain in the left arm and some sores on her right hand, which refused to heal completely. Premature labor was talked of, but the woman's condition was so desperate, owing to the extreme reduction of flesh and strength and the almost certainty that either cancer or ulcer of the stomach existed, that the risk of her promptly dying from the operation was considered too great. About November 1 the liquor amnii drained away slowly, but after a week, labor not coming on and in view of the seriousness of her condition, I urged her to have her will made out lest something grave happen depriving her of any chance so to do. On November 7, 1898, two lawyers made out her papers, by giving her plenty of time. Her voice was thin and feeble, her pulse weak and running about 140 to the minute and her features pinched and haggard. Strange to relate, labor set in on the morning of the 8th and was over normally in three hours; vomiting ceased when the os was half dilated, and never returned. The child weighed about 5 lbs., and both mother and child have done very well from that day to this.

Providing no accident had occurred as a result of the operation, an induced premature labor would have yielded a brilliant result. The ending of the case shows that an interruption of the pregnancy had not at any time been necessary, yet almost any one would have considered the case so serious that interference would have been gladly undertaken by all parties concerned could there have been given a promise of the woman's recovery.

In my sixth case the most noticeable and distressing symptom was hyperemesis, but the interesting feature of the case was the pathologic condition of cystic degeneration of the chorionic villi. This condition consists of a hypertrophy of the villi of the chorion and their conversion into cysts. This change is essentially in the endochorion, and is an overproduction of the mucous tissue within the villi.[15] There is no well-established single cause, but it seems a certainty that it never occurs except after impregnation. The manifold causes are given as diseases of the uterine walls or lining, death of the fetus, absence of blood-vessels in the allantois, and stenosis of the umbilical vein. It occurs hardly more than once in two thousand pregnancies and, unless vesicles escape, which is rare, the condition might not be suspected before the third month, when the rapid enlargement of the uterus, absence of fetal indications, and the history of irregular uterine hemorrhages would indicate hydatidiform mole. Pernicious vomiting may accompany this condition and be as severe and persistent as in natural pregnancies. Relief is finally obtained only through natural expulsion or artificial abortion, and complete emptying of the uterus. Great care is required in using artificial means of removing all cysts and decidua, lest perforation occur through uterine walls made thin[28] by vesicles permeating them. If some portion of the blighted ovum remained and seemed hard to detach, probably it were best to leave it to come away, or be removed at some future time when it had loosened or signs of septic danger arose. Well-established rules of asepsis and antisepsis should be rigidly observed in these cases.

Mrs. W.,[31] aged 42 years, robust, stout, belonging to that class of people known as "Pennsylvania Dutch," had a few irregular monthlies in the spring of 1891. She had never aborted, was always regular, and the mother of eight children, the youngest 3 years old; always had easy labors but considerable post-partum hemorrhage after the last confinement, seemingly due to failure of tonic contraction of the uterus, because of too rapid delivery of the fetus. When the case came under my care, about the middle of July, there was a history of absent monthlies from May, with ptyalism, morning sickness and other symptoms indicating a probable pregnancy of about two months' duration. For the past two weeks the nausea and vomiting had been increasing so much that apparently no food was now retained, thirst was most distressing, ptyalism was troublesome and gushes of blood, dark and watery, from the vagina, were frequent though intermittent and unaccompanied by any marked pain. She had a distressed look continually, loathed food, everything "tasted bitter," bowels were regular, had lost flesh rapidly since hemorrhage and vomiting became severe, and the bladder was irritable, but the urine contained no albumin. She slept fairly well and the nausea was not so bad when lying down, but a sick child kept her up. Calomel was followed by black draught; bismuth and bromid of potash gave considerable temporary relief.

July 29 she took her bed continually, temperature 100, pulse 108, general symptoms severe, and could not urinate except when on her hands and knees; nausea and vomiting horrible. A vaginal examination showed the os a transverse slit and high up behind the pubic bone; the uterus, apparently the size of an average child's head at term, was retroverted and almost pushing out an unusually large ostium vagina, and not felt in the hypogastric region. No evidence of tumor or cancer was noted and the uterus was partially replaced while the patient was in the genupectoral position, and this position ordered to be taken several times a day and the vulva opened to allow entrance of air. Popular remedies were used and rectal alimentation, but with no relief, except that the fundus, in about a week, could be felt in the hypogastrium, and the difficult urination ceased. The family being of the homeopathic faith, would consent to hypodermics only as a last resort. August 4, a hypodermic injection of ¼ gr. of morphia and 1-150 gr. atropia was used, giving complete relief for twelve hours. Morphia ⅜ and atropia 1-100 was given hypodermically from this date for two weeks with suppression of the symptoms and ability to take food. The woman becoming more and more exhausted, and the symptoms returning promptly on attempting to stop the treatment, an abortion was decided to be about

the only promise of relief from the pernicious vomiting. On stopping the hypodermic injections violent vomiting came on in twenty-four hours, the cervix was partially dilated by the fingers, active hemorrhage and pains occurred and an abortion was the consequence. The severe hemorrhage, preceding the abortion, was held in check by fingers and part of the hand in the cervix. The vesicles came away in small masses and felt like blood clots slipping through the hand. There was about a quart of them and blood and clots in a basin, presenting a striking appearance, likened by Dr. Gooch to "white currants floating in red currant juice." Some decidua in the shape of membranes was found, and no embryo. Great care was used in cleansing the uterine cavity, lest a wall made fragile by vesicular penetration be ruptured. A piece of decidua came away the next day. At no time had there been a rapid enlargement of the uterus nor an appearance of vesicles in the discharges, leading me to a diagnosis of the true condition. The woman made an uninterrupted and complete recovery, but hypodermic injections were necessary at 5 a. m. each day for a week, to keep down the nausea and violent vomiting. She has had good health since, and has never been pregnant.

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TYPHOID FEVER.

NOTES ON TWO EPIDEMICS IN THE IOWA HOSPITAL FOR INSANE.*

BY GEORGE BOODY, M.D.

INDEPENDENCE, IOWA.

Previous to 1896 there had never been more than two or three cases of typhoid fever in the hospital for insane at Independence. Early in September of that year it made its appearance for the first time as an epidemic, and within three weeks twenty-eight cases, all males, were taken down with the disease. It was not confined to one ward, but after its advent it broke out at intervals of a few days in widely separated wards or in the cottages; sometimes one case a day, and at others two or three would be stricken with it on the same day and in the same ward. It ran its course within twelve weeks and disappeared, leaving the institution apparently free from the contagion until August 6, 1898, when it was visited by a second epidemic, which spread quite rapidly and in much the same manner as the first, continued over about an equal period of time, and subsided as suddenly as it came. About the time of the beginning of these epidemics there were a number of cases of typhoid fever in the surrounding country within a radius of ten miles.

Source of Infection.—Since the organism is conveyed most frequently through the medium of water, attention was turned at once to the condition of the water-supply. It comes from dry points, thirty feet beneath the surface in a sand-bed, and the city near by receives its supply from the same source. These points are 80 to 150 feet from the river and located in a depression about which there are a number of dwellings, barns and vaults, there being no sewerage system in that part of the city, hence drainage by means of seepage tends toward the drive wells from three directions. There was no typhoid fever in the city, as might be expected if infection came through the water, yet specimens were collected and careful examination made by Professor Beirring of the Iowa State University, with negative results. Then it was thought it might come through the milk, but this was all produced on the farm, and investigation showed that it could not be the source of the contagion, except through one channel of introduction—into the milk first, as will be seen later on. Then it seemed that fruit and other foods which were shipped in from different parts of the country might have become infected by coming in contact with the hands of those who had engaged in preparing them for shipment, and who may have come from homes in which there was at the time, or recently had been, typhoid fever. There was nothing about any of these to indicate infection, and to positively demonstrate its presence or absence seemed a hopeless task and was not attempted. There were a number of cases of fever in the country adjacent to the hospital at the time of the beginning of each epidemic, and this fact revived the old theory that flies carry the organisms upon or within their bodies, or both, and in their migration, deposit them upon the general food supplies, or more likely upon the food after it has been placed upon the tables. They were very numerous, and this led to the belief that they were the carriers of the disease germs, they having first come in direct contact with the sick, or having sipped from that portion of the cup which had been in contact with the patient's lips, or after having walked about upon and eaten some of the dejecta, had flown across the country to the hospital and there deposited their dangerous burden upon food or vessels wherein food was prepared. That the poison was disseminated in this way there seems no reasonable doubt, since it has already been proven that flies walking about upon dejecta or on prepared cultures and then lighting upon a culture-medium inoculate it with the typhoid bacilli: and it is the belief of the writer that both epidemics originated in this manner, yet it was not demonstrated except by partial exclusion.

The prodromal symptoms in each of the twenty-eight cases of the first epidemic were unusually well marked. There was general malaise, severe pains in the head, posterior portion of the neck and back; very marked rigor in nearly all and nausea and vomiting in a number; roseola over the abdomen of all but one, and in one half

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they extended over the chest and thighs as well. They all had the typical markings of the tongue, the curving fever, with pulse and respiration in corresponding ratio, except when there were lung and heart complications; the bowel disturbances, diarrhea and tympanites and enlarged spleen, delirium in a few and typhoid expression in all; epistaxis in three, and in one of these there was also hemorrhage from all of the mucous surfaces and severe hemorrhages from the bowels of two others; albumin in the urine of sixteen and casts in four. Of the fifteen cases in the second epidemic not a single one had distinct chills, one had the typhoid rash, but it was not nearly so well marked as in the first, except in one patient, whose entire body was so uniformly covered with it that it was impossible to put the tip of the finger upon the skin anywhere without placing it upon a rose spot. They appeared over the abdomen first and gradually spread over the rest of the body. Albumin was present in the urine of all but one, in amounts varying from a mere trace to .5 per cent. in quantity; casts were present in two. With these exceptions the clinical symptoms were the same in both epidemics, and these in the first, together with the diazo reaction, which was found present in a few cases tested, and the isolation of the typhoid bacillus, completed the chain of evidence upon which the diagnosis was based. The writer was not yet familiar with the steps required nor with the technic in making Widal's blood-serum test, or else the last and most perfect test necessary to complete the chain would have been added and the diagnosis still further confirmed. In the last epidemic the diazo test was applied to the urine of every patient and the reaction found to be positive in all but two. Widal's blood-serum test gave a positive result in eight cases within seventy-two hours after the onset of the disease; one was negative until the ninth day, when the result was positive; one until the fifteenth day, when reaction was very positive, four tests in all being made; two negative on the first and also on the fourth days and reaction perfect on the seventh day; a fifth was negative on the first and positive on the seventh day; a sixth negative on the first and positive on the seventh day, and a seventh negative the first and only time the test was made. These confirmatory tests are of exceedingly great value, and without the latter one would always be in doubt as to whether an inverted case of typhoid fever was typhoid or not unless all the clinical symptoms except the fever, pulse and respiration were very well marked. Then, too, one is not justified in relying upon one test unless the reaction is positive, but trials should be made every few days until a reaction is obtained. There is a time in every case of typhoid fever when sufficient toxin has been developed in the blood to cause a clumping of the bacilli.

Of the first twenty-eight cases seven died. One epileptic, 21 years of age, died in status epilepticus after convalescence was well established, and a second, 17 years of age, was taken with tuberculo-pneumonia just as the fever had begun to decline, and perished within a few days. He also had a number of severe epileptic seizures, and the second a typical pneumotubercular lung. A third, a patient 69 years of age, with organic dementia, died at about the tenth day; a fourth, aged 53 years, a case of dementia, and a fifth, 43 years of age, died within ten days, and a sixth and seventh, one 19 and one 30 years of age, both of whom had been unusually strong and healthy, died early in the disease. The findings at the autopsies were typical typhoid lesions, with a perforation in one of the last two, and in another there was in addition marked brown degeneration of the heart, and a third had softening of one parietal lobe of the brain. Microscopic examinations of sections from the spleen of all the cases examined showed typhoid bacilli. They were stained with aqueous fuchsin, but much difficulty was experienced in staining them. The death-rate was 25 per cent., but it must be remembered that only four of these cases went into the disease with any hope of withstanding its ravages. Of the fifteen cases in the last epidemic not one died, but they were with few exceptions better fortified, and there was no serious physical complication.

The treatment in general was absolute rest in bed, which also included the case of inverted fever to be described later on, careful nursing, dieting, baths, and the administration of medicine with a view of antisepsis as far as possible, and a use of such drugs as seemed best to meet the indications and for tonic effect when needed. During the first epidemic intestinal antiseptics were given all the way through, and the diet consisted chiefly of milk, alternated now and then with beef-tea and broths; water was given when called for. Sponge-baths, tub-baths and ice-packs were given as seemed best suited for the case in hand, the former being used most frequently. In the last fifteen cases little attention was given to drugs as intestinal antiseptics, but instead pure cold water was prescribed in quantities ranging from 100 to 150 c.c., to be given every three hours throughout the twenty-four unless otherwise instructed, a little listerine being added in order to make the patients feel that medicine was being given, and water was also given if the patients called for it in the meantime, the chief aim being to flood the digestive tract with from one to three liters of liquid, including milk and other liquid foods, in twenty-four hours, with the hope of increasing the blood volume, and of thus diluting the toxic elements and hastening their elimination. The diet consisted of milk alternated with Mellin's food and Horlick's malted milk; broths, beef-tea and raw egg were given when a change from the prescribed diet was desired. Tub-baths were given except to patients much emaciated, or where there was unusual weakness, or where it was feared they might be followed by shock and collapse. Some of the patients dreaded very much to be placed in a cold bath, and in order to avoid both mental and physical shock they were immersed in tepid water which was then cooled down to the required degree of coldness. It seems only just and right that heed should be given to the appeals the patients usually manifest in mental or physical shock, if not by verbal request, for more appreciable, and at the same time more humane, methods in the administration of hydrotherapy—the sheet anchor of our hope in the treatment of this dread disease.

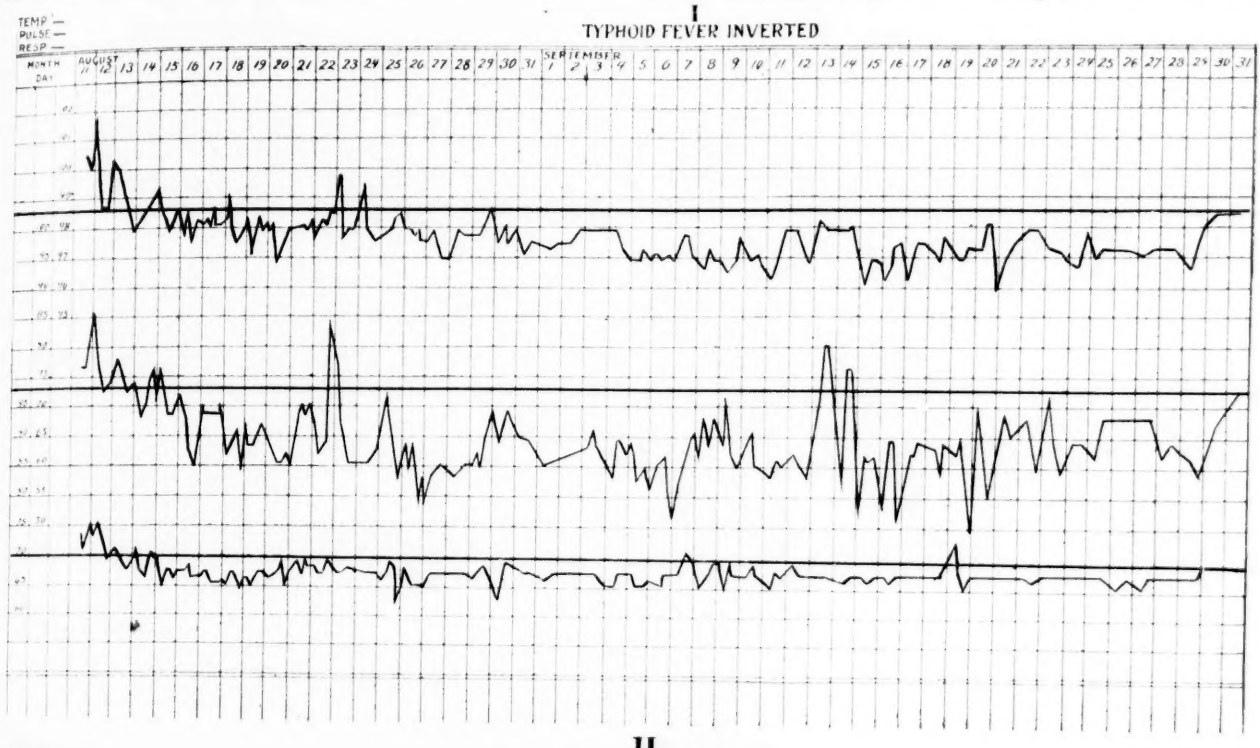
The subject of typhoid fever is an old one, and in these days it is next to impossible to express a new idea, one that has not already originated in the minds of physicians everywhere, or to meet with an unusual case, one which has not been observed and carefully studied by every regular practitioner. Hence, when it is said that this paper would not have been thought of had it not been for one case among forty-three reported which differed from the ordinary—and that a case of inverted typhoid fever—each one may be able to call to mind a similar case, yet not many of these cases have been reported. Many authors speak of a low type of fever. Early in winter Goltman gave an excellent report of a case together with

a tracing of the temperature curve; the case was as near like the one here pictured as it is possible for two to be, and nearly the same steps were taken to prove it. It appeared in the *Medical Record,* and was reviewed in the December number of *Medicine.*

This is the first case which it has been my fortune to observe and to study from the onset of the disease to its close. The patient was a male, 57 years of age, and a melancholiac, with marked mental depression and lowered vital functions previous and up to the time he was

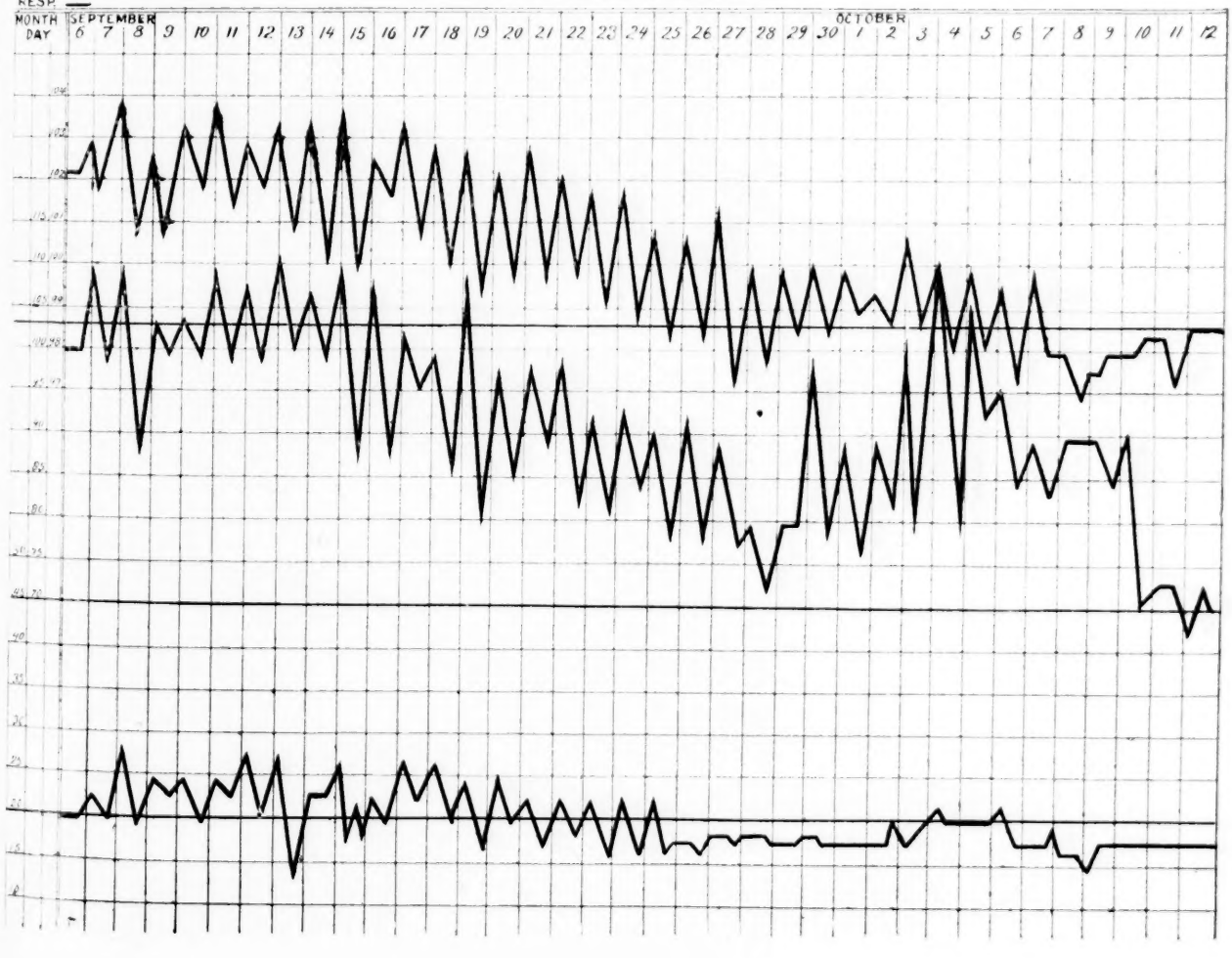
I

TYPHOID FEVER INVERTED



II

TYPHOID FEVER



taken sick. There was general malaise but no pain, the tongue was coated and the tip and border red but there was no tremor; slight tympanites was noticed, especially in the right iliac fossa, where, upon pressure, faint gurgling could be elicited and also some tenderness. For a time the stools were thin and characteristic in color, and over the abdomen were rose spots, but they were far less numerous than in any of the other cases, yet quite typical. The temperature was 101.2 on the day it was discovered that he was sick, and it rose to 102.8 on the second, then fell below normal, remained there with the exception of a few times, when it reached a point slightly above normal, but remained so only for a short time. The pulse and respiration curves as indicated by Chart 1, which is an exact copy of the temperature, pulse and respiration variations as recorded and accurately traced from the time the patient was taken sick until his recovery, show a very marked relation to the fever curve, being either above or below the normal line and sliding up and down at about the same time. Accurate tracings of the temperature, pulse and respirations in all the other cases, all of which were of the ordinary type of fever, were made, and Chart 2, a copy of one, is typical of all of them. All the clinical symptoms previously mentioned in this special case were very like those in ordinary cases, except they were not so well defined; but when the last three points are taken into consideration there is found to be a vast difference. This difference is better illustrated than told as shown by comparing the two charts. With all these symptoms there was yet much doubt as to whether or not it was a case of typhoid fever, and there yet remained two tests which, if applied at short intervals throughout the course of the disease with negative results, would have classed the case with some low form of fever or toxic condition not typhoid. The first of these—the diazo test—gave a positive reaction during the fourth week, and the second—Widal's blood-serum test—gave a positive result on the third day of his sickness, thus showing that the blood at this early date was sufficiently charged with the toxin to cause agglutination of strong twelve-hour-old cultures of the bacilli within twenty minutes, thus leaving no question as to the diagnosis.

The value of the microscope has been fully demonstrated in these epidemics: 1, in the differentiating between albuminuria so often present in fever and actual structural changes in the kidneys, nephritis: both of which were present in the above cases, the latter in only a few; and in determining the condition of the bladder; 2, in confirming the diagnosis by aiding in demonstrating isolated organisms to be typhoid bacilli and later making it still more positive by proving the presence of the same bacilli in the spleen after death; 3, without it, the most valuable of all the confirmatory tests—Widal's blood-serum reaction—could not be nearly so well made, since the agglutination process must be observed under a high power. The report of this or any case of inverted fever would be of little moment if the diagnosis was based only upon the clinical symptoms, since the latter may be almost entirely wanting, as happened in a case seen in consultation by the author only a few days ago, since this paper was begun, and which was positively demonstrated with those two last named aids to be a case of inverted typhoid fever.. Three weeks previous the patient had visited in a district where there was an epidemic of typhoid fever at the time, and the source of infection was contaminated water, of which the patient had also drunk; a second person visiting in the same place was taken with ordinary typhoid fever shortly afterward. The microscope is one of the most valuable aids the physician has. It enables him to be positive in many cases where there would be much uncertainty without its use; and best of all, the methods and technic in making any and all these examinations are so simple that any physician can easily make them.

Effect on Mental Status.—Of the total number there were two cases of paranoia, two of alcoholic insanity, five of melancholia, four of terminal dementia, six of katatonia, five of organic dementia, five of epileptic insanity, thirteen of dementia precox and one a nurse not insane. Nine of these showed a marked gain in flesh and muscular strength. This change was rapid, and hence nutrition must have been very greatly improved. All the others except the fatal cases regained their former weight and strength but progressed rather slowly.

The changes in the mental status were even less pronounced than the physical, but this is due largely to the fact that the prognosis from the beginning was favorable in only four cases. Two cases of dementia precox became much brighter during the fever, but complete relapse took place immediately after convalescence; one case, delirious during the fever, brightened sufficiently after convalescence to be able to relate the names of his relatives; tell of events that had taken place while he was yet at home; could write a little, but imperfectly; became more interested in his immediate surroundings, kept himself fairly neat, and even took part in and enjoyed in a measure simple sports with the other patients; but in the course of a few weeks he relapsed completely to his former condition. One case of katatonia began to improve very rapidly early in the disease, and at about the time convalescence was fully established, mental recovery was complete, and a second made slight improvement but soon relapsed. Two cases of melancholia improved slightly but soon relapsed, the third continued so well that he was able to return home, where he is now assuming the ordinary duties of life. The only case of acute mania was very much emaciated at the beginning of the fever; there was still great mental exaltation and motor restlessness, a rush of ideas and incoherence, all of which symptoms had continued for a period of three weeks, and because of this he was wholly unprepared to battle with the fever. Within five days he became oriented and being a very intelligent and well-educated man, it was thought best to acquaint him with his physical ailment which had come in as a serious complication. He was told the nature of the disease, that it would be absolutely necessary for him to control himself and remain perfectly quiet in bed or his chance for recovery would be very poor. He seemed to grasp the situation at once, and said, "Doctor, I'll do it." He recovered from the fever, nutrition improved, the gain in weight and muscular strength was remarkable, the recovery from the mental disturbance was complete, and in four months he was taken back into the employ of the government, in the post-office, where he now is.

The conclusions to be drawn are as follows:

1. Cases of inverted typhoid fever are comparatively quite rare, and the subject is deserving of thorough investigation as often and wherever an epidemic occurs, with the object in view of determining the relative frequency of the disease; and in doing this all the methods for confirming the diagnosis should be rigidly applied in each suspected case. In these two epidemics it occurred but once in forty-three cases.

2. Of the patients who recovered 25 per cent. showed marked improvement in nutrition and muscular strength while the remaining 75 per cent. only reached their for-

mer condition in these respects. Compared with previous observations it would seem that insane patients with typhoid fever do not show such a degree of improved nutrition after recovery as do those without the mental complications. The patients who improved mentally showed a corresponding favorable change in nutrition, and those whose mental status returned to normal made the most striking changes in this direction. This may not be true, except for these two epidemics, but in them is beautifully illustrated the profound influence that the mind exercises over the processes of nutrition and assimilation.

3. Of this number 16.6 per cent., all dementias, seemed brighter mentally but relapsed as soon as convalescence was completed, except one case which continued on some little time longer; 2.77 per cent., all melancholias, made partial recovery and one is just fairly able to resume the ordinary duties of life; 5.55 per cent., one a case of katatonia and one of acute mania, regained completely their former mental status. The behavior of the cases of dementia would lead one to think the fever had some slight influence upon the mental condition, but it is of no value, since the relapse occurred so soon. Such cases are always beyond the possibility of recovery. The prognosis in melancholia is favorable for some improvement, and it is only fair in this one case to assume that the fever played no important rôle in the partial recovery, since the change was no more than was predicted previous to the fever. The prognosis for recovery in acute mania is generally favorable; and in this case it was regarded as specially hopeful some time before the attack of typhoid. The recovery was rapid and complete and took place at about that period in the course of the mental disturbance at which a change might be expected had he not had the fever, hence one would not be justified in giving to the latter any prominence as a curative factor in connection with the insanity.

TYPHOID FEVER.

A QUARTER OF A CENTURY'S EXPERIENCE THEREWITH, WITH SPECIAL REFERENCE TO SOME UNSOLVED PROBLEMS.*

BY JAMES L. TAYLOR, M.D.
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The territory in which I have been located continuously for a quarter of a century is in the Ohio River valley—a region of low hills and valleys, with excellent natural drainage and exceptional freedom from swamps and sloughs, with a permeable soil, an abundant water-supply, furnished mainly by wells and springs, and occupied by a farming population of more than ordinary thrift, intelligence and sobriety. During nearly all of this period I have had more or less cases of typhoid fever to treat, and thus have had opportunities to observe the disease under circumstances quite different from those presented in hospital practice, or surrounding the busy practitioner in large cities.

Speaking generally, I may say that the type of the disease which has prevailed here has been mild, with a tendency to assume endemic conditions. The whole region was formerly intensely malarial, but in conformity with what has been observed in so many other parts of the world, malarial fevers have well-nigh disappeared, and the various forms of typhoid have succeeded. For many years now, I have hardly seen a case of intermittent fever—ague being one of the rarest diseases that I encounter. Still the germ is not extinct, because only this spring, after the thaw following the unprecedentedly cold weather of —33° in February, I had a few cases of old-fashioned shaking ague of the quotidian type—a fresh reminder of a form of sickness that few were fortunate enough to escape in my boyhood. Now, why has ague disappeared in a region which once seemed to be its congenial home? Men continue to clear land, to turn over the virgin soil—to a less extent than formerly, it is true—but the conditions of heat, moisture, decaying vegetation, and all the alleged circumstances favoring ague still exist. And the plasmodium is still here. But, instead of intermittents we have typhoid—a disease of a very different nature—domiciled now as an endemic. Has Eberth's bacillus run out, so to speak, the plasmodium of malaria? Or by virtue of what bacteriologic law does the one microdeme become diffused, abide and prevail, to the exclusion of another microdeme already in possession of the field, more widely diffused and seemingly more active in its development than the former?

The summer of 1875 in the Ohio valley was an unusually wet season, and was followed, on August 5, by an overflow which destroyed all vegetation on the lowlands. For many days after the flood subsided, the stench from the fields of corn and other vegetation rotting in the August sun was almost intolerable. Added to this was the saturated condition of the surface soil, and every low place filled with standing water evaporating during dog-days in a humid air. Very naturally there was a general apprehension, both among the profession and the laity, of serious sickness to follow such an ideal condition for the generation of a pestilence. Quinin sprang into sudden local demand—to say nothing of whiskey as an assisting antidote. But, strange to say, the following autumn—although somewhat dry—was the most salubrious I have ever known in my practice. I had almost no cases of any kind of fever to treat before cold weather. How many theories concerning the genesis of fevers such experiences completely overthrow! Here the plasmodium of malaria, in one of its aforetime favorite haunts, with the conditions believed for centuries to be favorable to its activity, reproduced, yet it seems to have lost the energy necessary to its continued propagation, or some physical cause external to the human organism forbids its further multiplication and growth. In our zeal to hunt out, identify and isolate the specific microdeme of each infectious disease, are we not in danger of losing sight of the far greater problem as to what kind of energy it is that determines whether the specific germ shall abide or disappear, remain malignant or grow benign?

In my territory, as I have said, typhoid fever since 1872 has been endemic, and its type in general rather mild, my mortality list rarely attaining to 5 per cent. But it was not always so. While malaria held the field, the incursions of typhoid were epidemic in character and most violent in form. Local tradition has preserved the memory of the first visitation, which occurred in 1823, and which was for many years afterward referred to as the "sickly season." Whole families were then stricken down at the same time, and the population being yet sparse, there were in some cases not enough well ones to minister to the sick, and the records of the neighboring church-yards still attest the unusual mortality of that epidemic. Doctors were then scarce, and medical attention that year difficult to obtain. But, strange to

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say, the impression lingers yet in that territory, that an unusual fatality everywhere marked the doctor's pathway; which means that the aforetime treatment of fevers was unsuited and damaging to the type of fever in that epidemic. It was the identical complaint set up in Europe years before, according to Dr. Rutty, who observed regarding the fever epidemics of his day, that "the mortality was great among those who were best attended to, and that the poor—those who were left to God's providence and got nothing but cold water—recovered." Other epidemics have since appeared, as in 1848, but were less widely diffused and not so malignant. Since 1872, when I began to observe and treat the disease professionally, I have seen nothing resembling an epidemic invasion, judging from descriptions of epidemics elsewhere. Take this from Trousseau: "A boy 12 years of age, cowherd to the mayor of Biórves, whose wife and daughters successively had had typhoid fever, contracted it, and brought it with him to his village, Orgeval, distant three kilometers, and where there had been no case of the kind. He there communicated it to a female relation who waited on him and she gave it to another female relative who came from the other end of the village to assist her. From that time typhoid fever spread in the village. Nor was that all; a young man employed as a servant in the house at Orgeval, took the disease, was sent to his home, a distance of six kilometers, whither he carried the disease, which became epidemic in that place." In the sense in which the word is here used, I have certainly never seen an epidemic of typhoid fever. Frequently the disease has infected several members of the same family after one of their number had brought it in, perhaps from some distant locality. Or it has adhered to one side of the street in my village or at one end of it while developing over a limited area. Or it has gradually embraced nearly all the dwellings in some small neighborhood out in the farming districts, with one or more cases in each, and continued for a season, the next year to appear in a different and widely removed locality. But though scarcely a year has passed without more or less cases to treat, many of them so mild that they would not be diagnosed as typhoid, were they not associated with or followed by graver forms of the disease that were unmistakable, in the same or closely related families—yet nothing resembling a wave of epidemic typhoid contagion has yet come under my observation.

Almost every type described in the literature of the disease has at one time or another prevailed here, but, as a rule, each year has been characterized by a particular form. Thus, while throughout one year the bronchial form has prevailed, almost every case partaking more or less of this impress, perhaps the next year it would be the cerebrospinal form, and another year the hemorrhagic form, and so on. According to my notes the year 1881 was marked by a tendency to abdominal hemorrhage. This was a dry, hot season in Southern Ohio, there being almost no rain in my neighborhood from April to November, while the thermometer sometimes registered 107 in the shade. We had a touch of the "hot winds," so well known in the Western states, and a consequent failure of crops very unusual in the Ohio valley. That year I had some twenty cases of typhoid fever, the majority of them being hemorrhagic, and one patient dying from the immediate effects of an enormous intestinal hemorrhage. Why the first appearance of a disease in a country should be especially malignant and destructive, and why, after becoming domiciled, it should gradually become milder, and take on such diverse forms in different seasons—forms so unlike in its mode of invasion and subsequent course that no untrained observer would imagine that the same germ was the common cause of them all—these are questions upon which science has yet shed no light—not even to the extent of offering a plausible theory, but certainly they present features of the most absorbing interest to every observant mind.

Where the disease has prevailed in the country districts over some limited area, I have studied its rise and development with special reference to the water-supply or surface drainage of that territory, and I have long since become convinced that neither the water-supply of individual families, nor the course of drainage of a locality was adequate to explain why the disease should hover over that particular neighborhood for a season and then disappear. The farm houses, as I have said, are supplied with water from their own springs or wells, and it is inconceivable that these sources—widely separated from each other—should become contaminated from some single focus of infection. Nor has the extension of the disease after its first appearance always been in the direction of the surface drainage. On the contrary, I have seen the first case in a new locality appear at the mouth of a hollow, and extend perhaps in an irregular march toward its head, and over the divide, in the most capricious manner possible, omitting some families and visiting others at one side of the direct path, in a way wholly independent of any connection with the surface drainage, or any recognizable focus of infection. My contention is that the disease in its endemic form is propagated, extended and continued according to obscure and indirect methods wholly unlike those employed in its more contagious, aggressive, irruptive character. This aspect of the disease is entirely different from malaria, which clings with tenacity year after year to certain localities. It rather resembles cerebrospinal meningitis in selecting spots apart from each other for its invasion, and then disappearing for a time after prevailing for variable periods.

One great difficulty in tracing the origin of any local development of the disease lies in the fact that a very mild case may be the precursor of other cases of great severity. Frequently my severest cases have come home from a temporary residence in a neighboring city—especially the Ohio River cities, where typhoid is likewise endemic, whether from the use of water from the river, the great sewerage channel of scores of towns and cities in six states, or from some other cause, I know not. But certain it is that the disease is more prevalent in these cities than in the country, and assumes there a form of greater severity. Such cases often come home to the country, and are apt to be troublesome to manage. When properly attended, however, they are seldom the starting point of a new infection. Again and again I have seen malignant and fatal cases go through the disease after being brought in, without a single member of the family or other families contracting it. It is the mild cases, where the diagnosis is uncertain, and precautions do not seem to be called for, that are most likely to cause infections, and when once propagated are most difficult to trace to their origin. Now, this explains sufficiently the diffusion of the disease throughout the family after its first introduction. But how shall we explain its gradual extension, sometimes even its almost simultaneous appearance, over a limited area and its restriction, perhaps for that season, to the inhabitants of a single neighborhood?

There are other circumstances connected with the endemic prevalence of typhoid in this region worthy of mention, such as the singular absence of some diseases that are commonly met with almost everywhere. One of these is erysipelas. I do not remember to have met more than three cases of idiopathic erysipelas during my term of practice. Another affection equally rare is puerperal septicemia. Very little of this has appeared in my territory, and I look for twin births, or placenta previa, or postpartum hemorrhage, or hydrocephalic crania, more than I do for puerperal septic infection. Tubercular disease also has greatly diminished in frequency of late years in comparison with its former prevalence. Excluding cases that have contracted the disease elsewhere, tuberculosis has come to be a comparatively rare disease in my territory. Whether all these circumstances are merely coincidences without any etiologic significance or dependence on physical conditions, I am unable to say.

Although typhoid has ceased to exhibit an epidemic tendency here, yet we are not immune to other epidemics by any means. The influenza visitation of 1889 was as general here, as severe, and as fatal, as it was anywhere. And it has shown a disposition to cling to this region, appearing and reappearing with considerable frequency. Typhoid fever for the past few years is much less frequent than it was before, and what is most singular—the type of the disease has undergone a very extraordinary change. I first began to notice this about five or six years ago. Patients would come to me complaining of indefinite ailments—especially loss of appetite, slight headache, chilliness, constipation, coated tongue, and great prostration I began by labeling it "typhoid ambulans," usually prescribing some placebo, and assuring them that in a few weeks they would likely be well. But much to my surprise they did not get well, as such cases had been in the habit of doing for so many years past. They called for more treatment, and grew weaker and worse. As I began to study these cases and compare them, I found that they had almost uniformly a slow pulse—sometimes as low as forty—and a sub-normal temperature, ranging from 96 to 98. I left thermometers with the families with instructions to take repeated observations. But at no time during twenty-four hours did it register any fever. These cases went on for months and months, and no sort of treatment availed anything. Some of them were absolutely without pain of any kind, while others complained only of ill-defined aching of the muscles, with cold sensations and numbness. The tendency to sweat, sometimes only over portions of the body, was marked in some cases, even the taking of food being attended with profuse perspiration, though this was not a constant symptom. The most constant phenomenon was the lack of definite symptoms except anorexia and great prostration. I repeatedly interrogated every organ of the body to detect a cause for this condition, with negative results. I plied them with stimulants and tonics to no purpose. I exhausted every resource in the therapeutic calendar without effect. Even generous, well-selected diet often made them feel worse. All the vital forces persisted in remaining below par. Sometimes the patient would be up and down, but oftener in bed. One patient was able to be about the room for two months, then was in bed three months, and after that was five months in convalescing. Emaciation took place slowly—very slowly—but never to the extreme degree of a typical case of fever.

I quickly learned that it was unwise to call these strange seizures by the name of typhoid fever—first, because they hadn't any fever, and second, because no one, myself included, had ever seen walking typhoid, or any other form of typhoid, act in that way. So I labeled it "nervous prostration." The patient and family were more easily managed under that caption. I can conceive of no more difficult position for a physician to occupy than to have such indefinite ailments to treat, where there seems to be so little the matter that neither the patient nor his friends can understand why he doesn't get well. As time goes by, the impression is apt to grow that the doctor doesn't understand the case. At first the physician may worry lest the patient should call for a change of doctors. But later on, this feeling subsides and is replaced by the fear that after all, perhaps the patient will not want to change doctors.

I have often racked my brains to conjure up some treatment that would induce a reaction, mayhap some fever—a blessed fever—to bring on a crisis of some kind to terminate the suspense. And I have sometimes wondered while treating these interminable cases, notwithstanding our belief in and use of cold packs and antipyretics for the elimination or reduction of fever, whether after all, the dreaded fever, according to the old contention, might not be a great and valuable factor in the unseen armamentarium of the *vis medicatrix naturae*.

It may seem incredible, but my books show that in 1893 I treated one of these cases—a young man at some distance in the country and at no time critically sick—for a period of eleven months. Then he decided to be removed to the city, where he had relatives, in order to be under the more immediate care of a physician. For a time he tried one doctor, and afterward a second one, who told him finally to leave the city and go back to the country where he would likely get well more quickly. It may be of interest to state that he finally did get well, and is now strong and robust again, notwithstanding that his father thought for a long time that the boy looked like "death upon wires." I have two similar cases in hand at this time, robust men in middle age, who gradually sickened last October, and without having at any time been bedfast, are yet unable to resume their usual vocations.

Now how do I know that this strange form of sickness—never observed here prior to the late epidemic of influenza—is due to Eberth's bacillus? Of course, I do not absolutely know it to be typhoid in character, because I have seen no deaths from it and no postmortems. I have not punctured the spleen in search of the microdeme. I have submitted blood specimens to Widal's test, but with negative results. Indeed, who would expect the characteristic reaction in cases without antecedent fever, when some undoubted cases with fever fail to respond to it? So that the failure of Widal's test in these cases I regard as inconclusive. But I am inclined to consider it as essentially typhoid, because I fail to see how it can be influenza, since in most cases, there is no history of an initial attack of that disease. Its mode of invasion, too, is so like ambulatory typhoid that at the outset no one would likely give heed to any points of distinction. Besides, these cases have repeatedly developed in dwellings where, at no long time previously, there had been typical typhoid fever. Certain of these cases also have developed in their progress a train of nervous symptoms identical with typhoid, such as insomnia, distressing dreams, intolerance of light and every kind of noise, forgetfulness of much that transpired through the sickness—in one patient insanity requiring temporary restraint in an

asylum—and other nervous symptoms commonly found in the typhoid category. And, finally, some cases have exhibited abdominal tenderness of a persistent character, one case at least being attended with profuse intestinal hemorrhage.

Whether this algid, subnormal type of disease is a simple or a multiple typhoid infection, or indeed, a wholly new form of infection, it is not to be doubted that we now have in this region a very marked change of type in existing diseases. Formerly, as we all know, this question of change of type was a great battle-ground among physicians, the majority insisting strenuously on this fact which they characterized by the phrase "epidemic constitution," while others of high authority declared that "such changes existed only in the imagination of physicians." But here under my own eyes I think I am witnessing a decisive transition. For five or six years now the old familiar forms of typhoid have been diminishing in frequency until they have almost disappeared, and a new form entirely unlike anything seen before for a quarter of a century holds the field. This sequence of phenomena has the appearance of a demonstration, and one must doubt the clear evidence of his senses not to believe that diseases do undergo marked changes of type. Graves, in his "Clinical Lectures," given in 1835, argued in favor of this doctrine with great force and clearness, showing that certain approved methods of combating a given disease under one form, were simply destructive when applied to the same disease prevailing under a different phase of the so-called epidemic constitution. And in proof, he very felicitously cites the example of Dr. Bateman, who had always opposed blood-letting in his practice, but who was obliged, on account of the inflammatory constitution prevailing in 1810, in opposition to his former views, to prescribe venesection in fevers. Graves also asserts that "in Europe the reign of typhus—the word typhoid at that time not being distinctive—appears to have closed with the influenza of 1804, when a new constitution began, at first more remarkable for the disappearance of nervous, we would say typhoid, fevers and other contagious diseases, than for any peculiar character of its own." For a time what he calls the gastric constitution held sway, but the gastric constitution had scarcely established itself when a new character, viz., the inflammatory, appeared upon the stage, and with its appearance venesection, which had previously fallen into disrepute, became once more a favorite remedy.

Possibly history is repeating itself, because following our own epidemic of influenza, the old familiar type of typhoid has well-nigh disappeared, as nervous fevers did, according to Graves, at the beginning of this century. Of course, I speak only for my own locality, but if I am correct in my observations, and we are now in a transition stage intermediate between types, may we not look for new conditions, new "constitutions," that may possibly modify our nosology and call for wide departures from former methods of treatment? I think I have already seen intimations of the advent of new characters on the stage which may possibly be the precursor of changes as unlooked for and unfamiliar as those described by the physicians of antiquity. For instance, last fall I had a run of laryngeal croup in children—without a single grave case of pharyngeal diphtheria—which carried off more children in the space of ten weeks, than I had lost before with that disease in the course of my practice. Some cases were preceded by a distinct scarlatinous eruption—although scarlatina was not epidemic—while others gave no history of an exanthem. In nearly all these cases I was called too late in the disease for antitoxin to be of any service, although I injected it in several instances. And these cases developed in widely separated localities, so that there could not have been a focus of contagion. To be sure, this unusual run of bad luck might have been due to a chance coincidence. But why, in the space of ten weeks, I should thus lose so many cases from membranous croup, when neither diphtheria, nor scarlatina, nor any other contagious disease was epidemic, seems unaccountably strange.

Whatever that influence may be which the phrase "epidemic constitution" has been used to describe, to my mind it is a species of morbific energy as powerful and controlling as it is mysterious and ill understood. While the specific germ may determine the kind of disease which its invasion shall produce, the "constitution" stamps that disease with a potency to become mild or severe, sporadic, endemic, epidemic or pandemic, and imposes laws for varying methods of treatment, which even the highest professional skill may not at first distinctly recognize and apply. But if typhoid fever in this country shall follow a course at all similar to its developments elsewhere in the past, under the varying so-called constitutions which from time to time have appeared, I very much doubt whether the semi-expectant plan of treatment which so many of us have successfully employed for nearly a life-time, will then fulfil the requirements of changed conditions and indications.

TYPHOID FEVER.

THERAPEUTIC PRINCIPLES ESTABLISHED IN ITS TREATMENT.*

BY L. F. ROUSCH, M.D.

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While the fatality from typhoid is not so great as it was at all times previous to 1870 or 1875, and a better understanding and treatment of the disease is gradually being brought about, still there is a large percentage of deaths, and no uniformity in the management and medical treatment of the same, and as a consequence great disparity of results follows.

When I was a student of medicine at the college, and for a long time following, there was no treatment advocated and none practiced which had any, or at least very little, specific influence to modify its progress or abridge its duration.

Furthermore, I am satisfied that the majority of physicians at the present time, including among the majority men high in the councils of the profession, who do not believe for an instant in abridgment, much less its abortion by medical instrumentality.

Quite a large number of the profession who have used the Brand method of treatment believe and know that the disease is modified, its duration lessened, and the percentage of death-rate made very low—they think lower than by any other method of treatment. Against this way of treating I have not a word to say, but for a long time I was at sea as to how this curative influence was brought about, but after the investigations of Robin, in which he proved that a much greater quantity of waste matter existed in the blood in fevers than in health, and that the quantity was proportional to its severity, and that through the influence of cold baths a greater quantity of oxygen was inhaled, a better oxygenation took place, at the same time the urea was in-

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creased to 20 per cent., I could begin to see and know something of its modus operandi.

But after the experiments of Roque and Weil established the fact that certain toxins were found in the blood in typhoid-fever patients, and that after or during the bath treatment, the excretion of the kidneys increased five-fold until convalescence occurred, then it was plainly enough seen how this method had its influence. I knew it could not be due to the temporary influence of reduction of temperature alone, but must be due to some change produced upon the system by effect upon some organ or organs.

In the hospitals and in the cities where you have all the facilities, as bath-tubs, trained nurses, etc., this treatment certainly should be advocated and practiced, as any treatment should which reduces the mortality to as low as 9 and sometimes to 2 per cent.

But this treatment can not be carried out in private practice in the country. It is simply impossible to use the full bath treatment. Just think of it for a moment —not one bath-tub to every 1000 inhabitants, not one trained nurse in a county in some of the counties of West Virginia, and no money to buy one or hire the other; and sometimes but little to pay the doctor. What are we going to do about it? We will exercise common sense and do the best we can under the circumstances, and of this I am going to treat. Now, as to therapeutic principles, what are they? I will explain as I go along, but I might say in advance in one word they are eliminative and antiseptic—the identical principle established and brought about by the cold-bath treatment, but to some extent through different organs and by a different way.

I know the common opinion that the drug treatment is of no avail; that it has long been tried and found wanting; that a great many agents have been heralded to the world as having specific influence, and they have been tried in the crucible of experience, and not found to answer the expectations raised by their advocates. I have tried many of these myself, and have been sorely disappointed more than once, but an experience founded on the treatment of 143 cases in the last four years has taught me the value of certain remedial measures about which I cannot be mistaken.

First Therapeutic Principle.—The bowels must be acted upon by cathartics. Calomel is the best: two to six grains once a day for the first six or eight days. Give it, diarrhea or no diarrhea: if no diarrhea to prevent it, if diarrhea to cure it. The typhoid stool must be changed to a bilious stool, or at least to a stool with little odor. Always give it at any stage for the diarrhea which has the typhoid stool, but be observant enough to know when you have the action of your medicine, and not confound the free action from the calomel with diarrhea, or the diarrhea with the action of the calomel. You can combine soda bicarb. or salol with the calomel if you desire.

The second agent is salicylate of ammonium or sodium. I prefer the ammonium, as it agrees better with the stomach, and is probably more of a stimulant to the heart, and possibly to the secretions and excretions. Five grains every two hours is the average dose, continued night and day, while fever remains above 102 in the evening; when it falls below, then only during the day. This is continued from first to last. If it disagrees with the stomach, add aromatic spirits of ammonia or spirits or compound tincture of cardamon. Sometimes it disagrees at first, but it will not continue to disagree after the first three or four days.

What is the effect of this combined treatment? In four days, usually, but scarcely ever later than the end of the fifth day, the fever is permanently lessened, the patient comfortable, the pulse full and not fast, no tympanitis, the skin and tongue moist; he sleeps at night, is not sick; you would scarcely know he had fever if you did not use the thermometer. He goes on in the same way to the tenth, twelfth, fourteenth, sixteenth, and sometimes to the twenty-first day, but rarely so long, and is free of fever, is convalescent. This usually comes along about the eleventh to the sixteenth day.

But some other measures are to be mentioned. All the water the patient wants, all the tea or coffee he may wish to have should be given. Sponging the surface once, twice, or even three or four times a day with water is agreeable to the patient. If fever is very high, when at its hyperpyrexia, use cold water. The higher the fever the more sponging is necessary; it always helps the patient. All the foregoing measures are for reduction of fever and elimination and destruction of germs and toxins.

Second Therapeutic Principle.—Do not give food at first, unless the patient desires it. As a rule he needs no food until we have eliminated from his blood, tissues and urine the greater portion of the toxins. It is useless, worse than useless, it is injurious to give food during the first week of the disease; besides all this, it is unphysiologic. The patient is living upon himself. Let him live that way. It is Nature's way, and do not burden him with material, which further disorders the digestive, assimilative and excretory powers. Nothing is gained, but a great deal is lost, and what is the sense in forcing food on a patient who loathes the very sight of it. Nature never speaks in lounder tones than she does in this way, but we do not listen. We are governed by an idea, a theory, and it must be carried out.

Time and again I have seen more diarrhea and more fever produced by the improper use of food at an improper time, and my rule is very little food during the first eight or ten days, as I know from observation, he is better off without it, and will convalesce sooner.

Third Principle.—No patient has been treated exactly right who has or continues to have tympanitic bowels. It is the worst symptom, aside from events like hemorrhage or perforation, that the patient can possibly have, even if the tympanitis is only moderate, or especially if very great. Nearly every patient that dies has tympanitis, has had it nearly all if not all the time. Why is it a bad symptom, a dangerous symptom? Because it greatly lowers the powers of life. The pulse gets weak and quick. The patient is restless, can not sleep; delirium and unfavorable symptoms supervene.

I said that no patient was treated properly who has it. How and what are the causes that bring about this condition? Continued typhoid stools, intoxication from same, lessening the powers of the whole nervous system, but especially the great sympathetic system. Gas is generated in the bowels, distension for want of muscular power from the innervation; continuing, they get beyond the power of the muscular coat of the bowels to contract; result peritonitis and death.

This is no fancy sketch; we have all seen it take place dozens of times in all probability. If, unfortunately, we have this condition, what is to be done? Administer small doses of calomel and salol frequently repeated, and large doses of strychnin; also equal parts of turpentin and camphor liniment to the bowels. This will likely overcome it, if it has not gone to that stage where

too great distension has taken place, or peritonitis has not supervened.

After the tenth day I usually give strychnin and continue to convalescence and during the same, then dilute hydrochloric acid in place of salicylate of ammonia in three or four days after fever disappears.

Administration of food begins after the sixth, eighth or tenth day; the first choice is always milk—sweet milk, or good fresh buttermilk; fruit juices from first to last. The patient will often relish some kind of fruit juice at the first. It is not a food in one sense, but every one knows its beneficial influence in sickness or health. It does not derange the stomach or bowels; it refreshes, makes the stomach better, and helps the patient in ways that we know nothing about, physiologically. It ought always to be given as a rule with but few exceptions. Do not use a bedpan. Let the patient get up. My patients get up themselves; they know what they are about; they are not too weak. Do not let that bugbear, perforation, scare you out of your wits. It does not often occur; I practiced thirty-two years with two cases only. It helps the patient to get up, gives him an airing, changes his position, and he feels better afterward. I am satisfied that it arouses his vital energies, and is a factor in preventing his getting into that dormant state which I saw so frequently in my early practice.

Now for the results: The thirty-first case died from overeating and eating improper food on the fifth day of convalescence. The patient was a young woman with her first child, 10 months old, and had poor health from the time of its birth; was anemic. Overeating caused indigestion, sick stomach, vomiting, diarrhea, prostration and death, but no return of fever.

The sixty-second case died on the twenty-second day, from hemorrhage. Pneumonia ensued on the fifteenth day. The patient was a young man, 22 years old.

The seventy-third case was a young man who was convalescent on the fifteenth day; got up, went to the cupboard, ate too much, and had a relapse. On the twenty-first day, when he was better again, perforation took place on the evening of that day, which caused his death. In the ninetieth case, the patient had a relapse three weeks after the first attack, with perforation on seventh or eighth day of relapse. He had been treated by another physician, but I treated him after the relapse.

In the one hundred and tenth case I was not called until the eighth day. The patient was unconscious, and death took place three days afterward. I did not have a chance to even commence treatment. It is hardly fair to count this case, but I have done so.

The sixth and last case was a married lady, about 45 years of age. She was the tallest and most slender woman I ever saw. She seemed overcome by the disease from the start, and did not have any rise of temperature but one day. She was really the weakest mortal I ever treated, and the sequel showed she really had no vital resistance, as she died on the eighth or ninth day with typhoid fever, when she had no fever.

Leaving out the one hundred and tenth case, which it is surely not fair to count, so far as treatment is concerned, this would show 3.5 per cent. of deaths.

Now, while I might have occasion to revise my statistics in the future in a way which would not make so favorable a showing, my opinion is that I could make a more favorable percentage even than I have made.

Of three things I am certain: that the treatment will greatly mitigate the symptoms, will shorten its duration, and greatly lessen the danger of death.

Whoever will may decry the medical treatment of typhoid fever as much as he pleases. I am sure of its influence, and look upon it as an established fact in medical science, and when called to a case, undertake the treatment without any apprehension as to the result. Whenever we can arrive at this state of mind in a disease like typhoid, which carries off its thousands of the youngest and fairest, with the highest hopes and the brightest prospects, then we have accomplished something for ourselves and for humanity of which we may well be proud.

ACETANILID IN TYPHOID FEVER.

WITH A REPORT OF SIX CASES.*

BY EDMUND C. BRUSH, A.M., M.D.
ZANESVILLE, OHIO.

The physician who has been in active practice for twenty-five years and followed the current medical literature has read of many cures for consumption and of methods of aborting typhoid fever. He has also read of many methods of treating typhoid fever and perhaps has tried some of them. I have never believed that typhoid fever could be aborted; I have never seen it aborted. Long ago I settled down to the idea that good nursing, judicious feeding and medicines to meet symptoms, as they arise, is the best plan of treatment. As you all know, same cases defy any and all methods of management and run a vicious and seemingly unmanageable course.

My home is in Zanesville, Ohio, situated in the Muskingum River valley, where typhoid fever is with us always; varying in frequency in different seasons of the year and also in different years. The severity of the type also varies in the same way.

The prime object in any plan of treatment is to control the fever; the severity of a given case and its outcome depending largely on the height of the temperature. It is not proposed to mention even the many plans, past and present for accomplishing this end.

The purpose of this paper is to report six cases in which acetanilid was used to control the fever. These are not the only cases in which I have used that drug, but the six in question were treated in a hospital, where records could be kept. They occurred at the same time and all originated at Camp Thomas, Chickamauga, Ga., during the latter part of August and early in September, 1898. The patients were soldiers belonging to one organization and of an average age of 22 years. They were sent home from camp with the disease in various stages. Two had rose-colored spots, and all had either diarrhea or a tendency to it, when admitted to the Zanesville Hospital. One had a persistent cough with sore throat. Three suffered at times with epistaxis. All had distended abdomens, but in only two cases was it pronounced. Not one had any hemorrhage from the bowels. The shortest run of the fever was twenty-four, the longest thirty-five, and the average thirty days.

In addition to the six cases reported, I saw ten others among the same body of men. These were taken care of in their respective homes by home people. I think it is generally known that the typhoid fever in the camp mentioned was not of a mild type. One of the ten cases seen by me outside of the hospital, died in the fourth week of the disease, from persistent and violent hemorrhage from the bowels. All the others recovered.

CASE 1.—Longly, aged 17 years, was probably in the

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tenth day of disease when received. He had rose-colored spots on the abdomen, and diarrhea when admitted. There was no delirium and but slight distension of the abdomen. He had fever for fourteen days after admission, the average morning temperature being 99.6,; average evening temperature, 101. At noon on the day after admission his temperature was 104.

CASE 2.—Tucker, aged 25 years, was probably in the eighteenth day of disease when received. The rose-colored spots disappeared soon after admission. He had epistaxis on the twenty-second and twenty-eighth days of disease and a troublesome cough throughout, with mild diarrhea and slight distension of the abdomen. He had fever for twelve days after admission, average morning temperature being 99.2; average evening temperature, 100.4. The highest temperature was 103, on evening of the twenty-third day. This patient had a decided yellow tinge to his skin and conjunctiva during the whole course of the fever.

CASE 3.—Trump, aged 21 years, was probably in the seventh day of disease when received. The rose-colored spots were well marked, and there was considerable delirium with subsultus tendinum when admitted. He had some diarrhea, and abdomen was distended. On the sixteenth day, after using acetanilid, his temperature at 6 p. m. was 98, and he complained of feeli chilly. He had fever for twenty-four days, average morning temperature being 100; average evening temperature, 101. The highest temperature was 103.2, on the evening of the eighteenth day. This patient had a pronounced yellow tinge to his skin and conjunctiva throughout his sickness.

CASE 4.—Rambo, aged 22 years, received about the ninth day of the disease. He had a troublesome cough and a persistent sore throat; was nervous, delirious and could not sleep; had subsultus tendinum. Some diarrhea and vomiting occurred at times, with well-marked distension of the abdomen; severe epistaxis on the thirteenth, eighteenth, twentieth and twenty-sixth days of disease. In the fourth week he had severe conjunctivitis, and had fever for twenty days after admission, the average morning temperature being 100.8; average evening temperature was 101.8. The highest evening temperature was 103.4, on eleventh day.

This was the only case in which acetanilid was used in doses larger than three grains. For the first three days after his admission this patient's temperature was hard to control, so that the dose was doubled and six grains was given, and on several occasions during those three days, this dose was repeated in one hour because the first dose did not produce any perspiration or reduction of temperature. After the third day of his admission and the twelfth day of the disease, the temperature was controlled with three-grain doses.

CASE 5.—Wortham, aged 25 years, was received near the beginning of attack. He had diarrhea all through sickness, but easily controlled, and had some cough and nausea at times. Late in the disease he suffered from insomnia; this was relieved with sulphonal. This man had a relapse due to tobacco brought in surreptitiously. He had fever thirty-five days, including relapse, the average morning temperature being 99.4, average evening temperature 101. The highest evening temperature was 103.4, on the eighteenth day.

CASE 6.—Hahn, aged 21 years, was received on the third day of the disease. He had well-marked abdominal distension, with diarrhea, followed in the second week with constipation: had epistaxis on twelfth, thirteenth and fifteenth days. He had no delirium when awake, but talked a good deal when sleeping; had fever for twenty-eight days, the average morning temperature being 100.8, average evening temperature 101.8. The highest evening temperature was 103.4 on the twelfth day. This man was raised in our Children's Home, and during his sickness was home-sick. Frequent visits from the matron of the Home helped the nostalgia.

On several occasions he complained of feeling chilly after taking acetanilid. Calomel followed by castor-oil was given for the constipation and had to be used a number of times. Whenever this patient's bowels did not move almost daily he complained of distress. This distress was always relieved by a laxative, and the patient said he felt better after it. As the pulse and respiration in all the cases were in ratio with the temperature, they are omitted.

The foregoing report shows that the cases were typically typhoid and not of a mild character. Three of them were in the first week, two were in the second week and one in the third week of the disease when they came under my charge. All had diarrhea at times, of more or less severity. Milk with lime water formed the chief article of diet, varied with malted milk, beef broth, whites of eggs, ice cream and corn-meal gruel. Ice and water were not restricted. The distended abdomens were freely anointed with turpentin. Antiseptic mouth washes were used. For the diarrhea, a tablet consisting of opium and camphor each ¼-grain, ipecac ⅛ grain and acetate of lead 1/6 grain was given. Bismuth or essence of pepsin generally relieved the nausea or vomiting. When a laxative was needed, calomel was administered, followed by castor-oil with a few drops of laudanum.

As many of the comrades of these men suffered from malarial troubles, it was deemed best to use some quinin in these typhoid cases. This was given in two-grain doses three times a day, or with the acetanilid. No whiskey was used. All were given a cold sponge-bath every morning.

Acetanilid was the antipyretic used, and it was efficient and effective. The directions given the nurses were to give three grains of acetanilid every three hours whenever the temperature was over 101, until it fell to that point or below. If, after giving a dose, the temperature showed a decided tendency not to fall, a second dose was given in two hours.

As an illustration, the following is taken from the record of one of the cases reported. At 5 a. m. his temperature was 102.6. Three grains of acetanilid was given at once and this was followed by free perspiration. In two hours the temperature was 100.6 and only one dose had been given. At 2 p. m. the temperature was up to 103; acetanilid was again given and in two hours the temperature was 101, and did not go above that point that evening.

Nearly all patients broke out into a good perspiration after the first dose, and the temperature began to decline; the second dose made the perspiration more free and the decline in the temperature more decided. In every case there was comparative ease in controlling the fever by the method given. There was no effort to reduce the evening temperature below 101. It often went below that point, and the patients would only complain of being chilly. There were no bad effects noted from the use of the drug. It was not given in large doses, it was not given often. Frequently two doses in one day were all that a patient required. When, however, a high temperature persisted, the drug was used until the fever gave way. The nurses showed apti-

tude in administering the acetanilid as soon as the idea of its use was explained; instructions were carried out carefully.

It is to be remembered that these patients were robust young men, that the feeding and care given them was systematic, and they never questioned what was to be done.

I do not present this paper because I think that I have found *the* treatment for typhoid fever, but because in using acetanilid, I had success, and I believe that, used with judgment, it is a valuable remedy in treating typhoid fever. Please observe that no attempt was made to produce a sudden fall in the temperature by using large doses. I preferred to give small doses and by repeating them produce a gradual decline in the fever. Excepting one case, three grains was the largest dose given.

Furthermore none of the remedies used were given unless their need was clearly indicated. The whole idea was not to medicate, but to pilot the patients through the rapids of the disease and to land them on the shore of recovery.

DISCUSSION ON PAPERS OF DRS. BOODY, TAYLOR, ROUSCH AND BRUSH.

DR. J. A. WITHERSPOON, Nashville, Tenn.—This subject is one of the most important that we have to deal with. If I understood the gentleman correctly, he stated that malarial fever had about died away, and that most fevers today were of typhoid origin. Now, gentlemen, the differences in the treatment of typhoid fever in recent years has made it evident, in my humble judgment, that the fever mentioned is a different type of fever altogether. I do not know what you have in this part of the country, but I do know that we have in Tennessee, and in that section of the country, a fever that has none of the etiologic or clinical factors of typhoid fever or malaria. We never find, after the tenth day, the typhoid bacillus in the stools, or the malarial plasmodium in blood. We never have the nervous symptoms of typhoid fever. The temperature goes up suddenly without any incubation period. With the fever there is at once great prostration. It is a fever with leaky skin, and not the dry skin of typhoid; with general abdominal tenderness and the scaphoid belly; with rather constipated bowels, with small scybala actions at first, and not the mushy stools of typhoid fever; a fever that runs a rather low and favorable course if not overtreated; a fever without enlargement of the spleen and liver; one where the effect on the nervous centers is very slight; one with markedly fluctuating temperature. It takes one general purge at first, in these cases. I can not imagine any worse treatment than giving an active purgation of 3 to 6 grains of calomel every day for six days to get up a stool as frequently as one wants to, as mentioned. In typhoid fever we have an irritation in the intestinal canal, of the solitary follicles, an inflammation of Peyer's patches with ulceration, and by this active purgation you absolutely add fuel to the fire, running the risk of the formation of a quick slough. In my limited experience with cases of typhoid fever, I believe they do better when the bowels are moved with a gentle enema, rather than by a purge. I do not believe in continuous constipation, but I do believe in enemas, and not in the use of purgatives at all. Another point: there is no treatment of typhoid fever to be applied to every case. We should meet the conditions as they arise. If I should select any one treatment, it would be cold water inside and outside. It is by far the safest and best treatment ever introduced. It is not the treatment of the disease, but the treatment of the patient. One should carefully consider the vitality of the patient and treat according to the symptomatology.

The gentleman who read the last paper stated that the essential element in the treatment was to control the fever. Why, the toxemia is the dangerous thing we have to deal with. The toxins are sent out into the system and overwhelm the nervous centers. The fever plays but a little part. If any man thinks that the Brand method of treatment is for the purpose of lowering the temperature only, he has a wrong conception of it. The temperature plays but a little part. As to acetanilid, I want to place myself on record as saying that I do not think that any of the coal-tar derivatives have a place in the treatment of typhoid fever. Any drug that lowers the resisting powers of the patient and acts on the heart muscle itself, should have no place in the treatment of typhoid fever. Therefore, I oppose any coal-tar derivatives. The best treatment is rest, water, regulation of the diet, careful nursing, regulation of the bowels, and, if you do not treat too much, the vast majority of the cases will get well.

DR. C. H. MILLS of Illinois—I have been in the habit of treating typhoid fever since 1856 with rest, feeding with toast-water, some milk and six drops of turpentin made into an emulsion and given every three or four hours; this is the treatment of Dr. G. B. Wood of Philadelphia. I advise occasional enemas of either water, or water and turpentin. Occasionally typhoid fever is modified by the presence of malarial fever, and this is usually spoken of as typhomalarial fever. It is a combination of the two diseases. Where this occurs I give quinin, 60 grains in twenty-four hours, which eliminates the malarial part. In ordinary practice I can not use the cold bath. This use of cold water was common when I commenced practice and is common to-day. Turn the water on the wrist and on the head and do not disturb your patient. The great trouble is that we interfere too much with the patient. Give rest in a well-ventilated room.

DR. CROOK, of Tennessee—I only wish to add to Dr. Witherspoon's statement. I find that he gives it very nearly right. If I am called to treat a suppurating wound, I use drainage and antisepsis. If I am called to see a case of typhoid fever, which means that the alimentary canal swarms with bacilli, I use drainage and antisepsis.

DR. L. I. MATTHEWS, Joplin, Mo.—I thoroughly agree with the remarks made by Dr. Witherspoon. I have had the same serious doubt, in reference to the type of fever we have in the West that Dr. Witherspoon seems to have. He did not say that we have a special type of fever, which differs from malarial fever or typhoid fever in the West; he did not say that, but I think he believes it. I know that I believed it for many years. Many years ago I read a paper that demonstrated conclusively, to my mind at least, that what most of the physicians were calling typhoid fever was some peculiar, distinct disease different from typhoid fever, it being neither typhoid nor malarial. Soon after I had a number of these cases, in which the last four running much the same course, developed fatal intestinal hemorrhage. While I believe, in the West, we do not have the typical cases of typhoid, as described in text-books, I now believe that all of them are due to the bacillus typhosus. My experience has taught me to pay but little attention to the fever. If I am called to see a case with remarkably high temperature, and yet with a good pulse, I feel secure; but if I am called to see a case with low temperature, with quick, rapid pulse and with indications that the disease is going to be one of prostration, with probably heart failure, I then am apprehensive. Pay attention to the heart, rather than the temperature.

DR. SCOTT of Iowa—It has been my opinion that the origin of the bacteria in infectious diseases in general is from outside the human body. The illustration of the endemic of typhoid fever, as given by the author of the first paper, is evidence of this fact. It is developed from some outside source, as decomposing vegetable or animal matter. The symptoms of typhoid fever are due to toxins which are developed within the cells, which, being absorbed by the body, produce effects on that body, especially the nervous system. The treatment of infectious diseases in general, and typhoid fever in particular, must necessarily be the removal of the toxins from the system. The fever should be treated by removing its causes, i. e., its toxins. This may be eliminated: 1. By the use of water internally, so eliminating it through the kidneys. 2. By the external use of water. 3. By action on the liver, which is the organ, when properly stimulated, that destroys or reduces the amount of toxins and so gets rid of them. 4. By the use of intestinal antiseptics. 5. By nourishment. The administration of nourishment from the beginning of the disease is necessary. In regard to getting up for stool, there should be no hard and fixed rule in this matter. During the first week the patient should be allowed to get up, but not during the last stages, when there is danger of perforation of the bowels. I do not believe that acetanilid has any effect in this fever. It seems to me that the giving of any drug should depend on what other agent is given with it; acetanilid, in small doses, given with caffein or whisky, may be valuable.

DR. HERRINGTON of Ohio—It will be a long time before we settle how to treat typhoid fever. The fact that we treat typhoid by different means shows that there are a lot of things we do not know. But I hope and trust that every physician will aspire in the treatment of typhoid fever to the extent of trying to abort the fever and not to that of curing it. The question to-day is, can typhoid fever be aborted? I am among those who claim that it can be aborted. Most of you expect to have a low muttering delirium, tympanites, etc. To prevent

this, commence early in the disease, with mild catharsis, using small doses of 1/60, 1/80, or even 1/960 of a grain of calomel, and give it every few minutes, and so keep up a light-colored abnormal discharge from the bowels and try to bring the discharge to the normal. The liver is not acting properly and the discharge comes at first from the lower part of the bowel. This prevents the tympanites and aborts the disease in quite a large majority of the cases in not over fifteen days.

DR. LOUIS BISHOP, New York City—This discussion covers the treatment of typhoid fever thoroughly. I would like to make a phrophecy that the time is not many years distant when we will have an efficient antitoxin treatment. It has been shown by experimental means that typhoid fever can be prevented by the use of the antitoxin made from the typhoid bacillus. Dr. Welch of Johns Hopkins Hospital, Baltimore, in an address before the New York Academy of Medicine, gave the details of the work of bacteriologists, showing that the time is not more than a few years distant when we shall have an antitoxin treatment for typhoid fever. At present I believe that the best treatment for this disease is the cold water treatment, externally and internally. I have measured the urine in patients who have been subjected to the cold bath, and I have seen it about double itself as soon as the treatment was placed in operation. I believe that the success in the cold bath is largely due to its elimination of the toxins.

DR. J. C. WILSON, Philadelphia—It is clear to me that such an interchange of opinion as this must be of more value than we at the moment realize. The interchange of opinion and experience of practitioners living at distant points and in different parts of the country is most useful.

I may be permitted to speak of our experience in the German Hospital in Philadelphia, where we have always a great many cases of enteric fever, and during the recent outbreak had as many as sixty-eight cases in the wards at one time In that institution the cases are treated systematically by cold bathing, according to the method of Brand, but under no circumstances do we use the internal antipyretics. In theory our object is to eliminate the toxins of the disease as rapidly as possible, and we avoid introducing into the blood-current toxic drugs, such as acetanilid, phenacetin, etc., the perturbating effects of which are so marked.

Brand and all those who have carefully carried out his treatment on an extended scale concur in the view that the cold bath treatment is not of itself an antipyretic method. The reduction of temperature is one of a group of effects produced by systematic cold bathing. Another effect to which too little attention is paid is the action of the cold bath on the kidneys as organs of elimination—the toxic coefficient of the urine after the bath having been demonstrated to be increased from five to six times.

Albuminuria is much more common and more marked in cases treated by systematic cold bathing, than by the expectant method, but it is a transient condition, disappearing with the recovery, and in this respect resembles the albuminuria of yellow fever.

I desire to speak of our experience with reference to the posture of the patient in bed during the attack. We have adopted the plan of having the bath-tub stationary in our small fever wards and, due consideration being had to the condition of individual patients, allowing them to walk to the tub with the assistance of the attendants. In this way the patient is aroused from his recumbent posture regularly every third hour, walks to the bath or is carried there by the attendants, and returned to his bed afterward. We have practiced this plan since Jan. 11, 1897, and the results have been entirely satisfactory. In 165 cases of enteric fever treated during the year 1897 the mortality was 6.5 per cent.

DR. JENKINS of Iowa—More than fifteen years ago I was satisfied that house flies were the greatest carriers of the contagion, and during the late war we had much typhoid fever in the camps, brought on by house flies. The excreta should be destroyed. We could not put soldiers in a more perfect hotbed for the development of the disease than we did in the late war. They were placed in the camps, and when they were taken with typhoid fever they were removed to the hospital; from the hospital they went to the camp, and so carried infection. Good water was to be had, but nearly everybody who was susceptible to typhoid fever was infected in these camps. This is a very important thing, and the medical profession should speak out and see that no such thing should again happen.

DR. GEORGE BOODY, Independence, Iowa—In connection with the external use of water, it should be given in regularly prescribed quantities internally. During the last epidemic I carefully watched Widal's reaction day after day, in all my cases, in a number of cases treated by neighboring physicians who wished their diagnoses confirmed, and in one case from Jacksonville, Fla., a specimen of blood having been sent to me by a nurse in my service who went to the camp there; and as I saw in each case the same reaction, the bacilli clumping and perishing in a short time before my eyes, I could not help thinking that in the not distant future there would be a typhoid serum or antitoxin which would give the same results in the prevention of typhoid fever as we now obtain by the use of antitoxin in diphtheria.

DR. L. F. ROUSCH, New Haven, W. Va.—I wish to speak in reference to what the gentleman from Tennessee said about the cathartic action of medicine. He made it appear that I used calomel in doses large enough to produce an irritative effect. While it is well enough to use large doses, as advised, it is not continued.

PERIOSTEAL CARIES FROM BACTERIAL ORIGIN.*

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Of recent years my attention has been called to a number of cases of neuralgia, the exciting causes of which were obscure, as is frequently the case. Among others was a case of supposed tic douloureaux accompanied by the apparent death of the periosteum over a larger portion of the lingual surface of the inferior maxilla of the left side. While the exciting cause in this case may have been central, it apparently was peripheral; it yielded to local treatment, which fact strengthened belief in the peripheral origin. The finding of this lesion was the result of desperate effort, every logical treatment, both systemic and local, having been resorted to, aside from nerve section, and all without relief.

CASE 1.—Mrs. X., aged 55 years, suffered with paroxysmal pains resembling tic douloureaux; these continued with increasing tendency for three or four years, always including the first molar, which was the only tooth remaining back of the first bicuspid, and it was finally extracted, after having been devitalized and properly treated. For a short period this gave some relief, but the paroxysms returned with increased severity.

There was nothing abnormal in the macroscopic appearance of the bone, flesh, or mucous membrane, and no tenderness nor swelling; no pus could be detected. Thinking that something abnormal might possibly be discovered with a magnifying-glass, one was used, and a tiny slit was found, not to exceed one-sixteenth of an inch in length, and situated on the summit of the alveolar ridge, at the former seat of the offending first molar. My first impression was that I should find here a portion of the root of a tooth, but none could be discovered; the probe, however, after being forced between the lips of the opening, went into a large pocket on the lingual surface of the bone without further resistance; careful probing showed this pocket to reach from the summit of the alveolar ridge to the inferior border of the jaw, and from the first bicuspid back to the angle, including the inferior dental foramen. The surface of the bone, instead of being rough and necrotic, had the feel of being emburnated and without periosteum; of course, the exact conditions of such cases can only be verified by post-mortem examination, and as yet no opportunity has offered for such investigation.

It is held by others that the periosteum in this case is probably still present, and either divided, or entirely adherent to the supervening soft tissues, and I believe that all known laws of pathology would support this theory. There are some facts, however, which go to support the hypothesis that the periosteum is dead, in this and all similar cases.

*Presented to the Section on Stomatology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

In studying the subject, with the conditions in mind as recited in the above case, many old cases can be recalled, and many new ones have been presented which are interesting, as bearing on the pathology of the subject.

Two or three will be described as typical, and I believe will show sufficient reason for advancing the hypothesis of necrotic, or carious periosteum and peridental membrane. The writer holds that the periosteum and peridental membrane are identical in every thing excepting thickness.

No. 1—Section of cat's jaw. Tissues in situ. Blood-vessels injected. B, bone; A. i. P., arterioles in periosteum: D, dentine; B. i. Pl., Blood-vessels in pulp: C. i. P., capillaries in pulp.

No. 2.—Section of cat's jaw. Tissues in situ. Blood-vessels injected. B. i. Pl., blood-vessels in pulp; D., dentine; PC., pericementum; P., periosteum; B. i. P., Blood-vessels in periosteum; B., bone.

CASE 2.—Miss Y., aged 35 years, after having suffered with neuralgic pains on both sides of the face for some months, presented herself for treatment. The pain was paroxysmal in character, distributed on both sides of the face, being excited by foods, especially sweets, sours and salts, sometimes lasting for hours, there being very few meals passed without more or less pain, the paroxysms becoming more frequent and severe as time passed; the greatest intensity and most frequent seat of the pain was in the lower molars of the left side.

On examination little or no calcareous deposit was found, excepting on the backs of the lower centrals, but the pain never seemed to locate itself in this place. About the molars and bicuspids, more especially around the molars on the left side, there was very apparent difficulty in the form of necrosed bone; the septa, especially

No. 3.—Section of cat's jaw. Tissues in situ. Blood-vessels injected. B., bone; P. D. M., peridental membrane; D., dentine; B. i. Pl., Blood-vessels in pulp canal, showing capillaries on the surface.

No. 4.—Section of cat's jaw. Tissues in situ. Blood-vessels injected. Flat surface of periosteum, showing arterioles, with a few capillaries. Arterioles are 1-60 of an inch in diameter, while capillaries are 1-3000.

between all the molars, were more or less dead, some more than half way to the apices from the necks of the teeth; about the latter mentioned teeth in some places a smooth broach could be pushed clear to the apices of the roots, without pain or bleeding, showing the periosteum to be absent in much of the socket, but on cutting the septa away a sensitive and bleeding condition was reached about half way from the neck to the apex. The

lingual and labial portions of the bone did not present so extended a lesion, but death of the periosteum, however, seemed to progress more rapidly, and cover a much greater extent of surface than the dead bone.

In none of these localities, where there was little or no tartar, was there much apparent inflammation in the soft tissues, and no tenderness in bone or flesh, until live tissue was reached below the necrosis. Where the calcareous deposit was greatest—on the backs of the lower centrals—there was some redness and possibly some pus with the bleeding, but no yellow or watery pus as in typical cases of pyorrhea.

Another case where a single tooth was the cause of much trouble will suffice.

CASE 3.—Mr. Z., aged 50 years, indicated constant pain, varying in intensity, sometimes in the angle of the jaw and ear, but often in the lower first molar on the left side, or its vicinity—the only molar remaining on that side below. Half the crown of this tooth had been worn away, and a protection of gold had been built on, and a large cavity in the anterior approximal surface had also been filled with gold. This gold work was going to pieces and had to be replaced; it was found that decay had proceeded under the approximal filling so that the pulp had to be capped, after this the pain increased in intensity and frequency of paroxysms. The next step was to remove the pulp, and obliterate the pulp cavity and root canals; this gave only slight improvement, so search was made for bone and periosteal trouble. It was discovered that a probe could be passed beneath the soft tissues on top of the ridge, for fully half an inch behind the first molar, the same condition of bone surface being present here that was found in Case 1; further search also showed the septum to be largely dead between the molar and bicuspid.

Numerous cases could be reported to fill in all the varieties of this trouble, between the two extremes, both in extent of lesion and pain, and this not only from my own records, but from those of some of my confrères, notably, Drs. Heise, Callahan and Le Fevre, who have become interested in this particular lesion as distinct from pyorrhea alveolaris and other lesions of bone.

The principles of treatment have been the same in all this class of cases, viz., removal of dead bone, if such could be discovered, and the sterilization of the pockets with escharotics. The remedies usually employed have been alcohol as a menstruum for tincture of iodin, the strength of the latter being used according to locality and symptoms, from almost full strength to a 5 per cent. solution, to which was added 2 or 3 per cent. of oil of cinnamon.

In all cases recovery has been slow, varying from a few weeks to a year in duration.

In going back over these cases as to the extent of lesion, we have, first, cases in which the septa between the teeth become denuded of periosteum, then follows death of the septum; the former lesion at times invading the alveolar process on the lingual or buccal surface of the bone. In this condition there is no difficulty in deciding as to dead bone and periosteum, although the soft tissues, aside from the septa of gum, still remain in shape and show little signs of inflammation.

Now as the trouble creeps down on the outside or inside of the jaw—as in Case 1 fully described—where the bone is much thicker and the collateral circulation much more extensive, the surface of the bone feels to the touch of an instrument as though it were eburnated and not dead, and if the sense of touch can be relied upon, the periosteum is absent, as far as the surface of the bone is involved; it may be adherent to the supervening soft tissues, but the writer is of the opinion that it has been destroyed. If progressive lesion of the periosteum on the outer or inner surfaces of the alveolar process is accompanied with confinement of pus, as it often is, we then have what is recognized as gingival abscess, and if the lesion about the roots and peridental membrane is accompanied with a perceptible flow of pus, it would be termed pyorrhea alveolaris, but both these conditions are to be distinguished from the one under discussion; nevertheless, this lesion may result in a collection of pus, and if this occur, a name is given it according to its locality, such as felon (onychia), empyema of the maxillary sinus, etc. Another phase of this lesion, in the writer's opinion, is, that this peridental caries, or mycotic destruction, *precedes* the *so-called uric-acid* or *serumnal deposits* about the roots of teeth, *which deposits* are *secondary* to a *lesion, and not primary to it.*

There would seem to be no impossibility in the position that the periosteum may be destroyed, and the bone remain alive, as in Case 1, since the collateral circulation could certainly supply the necessities of life for an indefinite period to a bone so large as the maxilla; then, too, the progress of the disease is so slow that the surrounding tissues have ample time to adjust themselves to the new conditions, and we all know that Nature is ever ready to adapt herself to change, when compelled to in order to preserve the life of the organism. As to the periosteum being lifted off the bone, and remaining adherent to the supervening soft tissues, this can only be decided by post-mortem examination. I believe it will be admitted that all lesions of the periosteum are attended with pain of a neuralgic character. In cases of confined pus within or upon the surface of bone, the pain is often almost beyond endurance.

In osteomyelitis, previous to the death of the parts, Senn says: "Pain may be absent at the seat of the necrosis, and referred to some other part or locality." This is true in the cases observed, for the sensation was largely referred to some other place or locality, rather than the seat of the lesion, many times the patient not being able to locate it.

Etiology.—As to etiology, Senn further remarks, under "Necrosis": "The same bacteria which produce inflammation frequently, if present in sufficient quantities also cause cell necrosis," and he quotes his authorities for such belief. The above statement and the supporting authorities, in company with the knowledge of the methods and destructive attacks of bacteria on dentine, could almost convince one that once a suitable culture of bacteria or cocci had been started in the horny-like fibers of periosteum, they could produce continuous destruction of this membrane, much as they do that of dentine, and this opinion is held for the following reason: The study of the periosteum in my own laboratory shows it to be a very compact membrane of connective-tissue fibers, and histologically much more the nature of the hard tissues than of the soft, hence the application of the word "caries"; in one of its layers it is found carrying aterioles in great numbers, *but having very few, if any capillaries anywhere in its substance,* and no blood-vessels at all in one layer, although the supervening soft tissues are plentifully supplied with them. (See illustrations.)

If this be true, then it seems rational to hold that this membrane during life can, and does, form a good and sufficient pabulum for the growth and development of bacteria, and this to its own destruction, the neighboring capillaries not being in a position to combat the inroads

of the enemy much better than they would in caries of dentine. In the capillaries lies the power of resistance to inroads of an enemy, as well as that of recuperation, it being known that migration of leucocytes, and diapedesis takes place almost exclusively in the capillaries, *protection* and *repair* being amongst their most important offices, hence in tissues where they are absent or few, bacteria might be expected to thrive, and the writer is of the opinion that they do, and that the lesion in question is resultant upon the conspicuous absence of capillaries in the periosteum, and they seem especially few in the peridental membrane, as the accompanying illustrations show, which fact may explain many of the phases of the disease of this membrane and the alveolar process.

The exceedingly slow recovery of these cases under germicidal and stimulating treatment would also tend to support the hypothesis of the death of the periosteum by bacteria, and if the death is caused in this way, then the process might be called "caries of periosteum." This hypothesis, however, can not even attain to the dignity of a theory until some one of ample time and opportunity takes up the subject and carries it through clinical and laboratory tests sufficient to establish it beyond question. The writer is convinced, however, that one would be highly justified in undertaking such a series of tests, and if such a theory could be established, many cases of so-called rheumatism, obscure neuralgias and headaches could be traced to a progressive lesion or death of the periosteum in the bones involved.

In what seems to be a complete recovery from amputation, or compound fracture, pain is often continuous and severe, and not easily accounted for, and in chronic disease of the accessory air-cavities and the mastoid cells, neuralgic pain is a prominent symptom, and at certain stages is of a character much as has been described in cases herein reported, and the writer believes may come from the lesion described, and should be investigated with that idea in view.

Regarding periosteal caries from bacterial origin in cases of amputation or fracture, where thoroughly aseptic methods have been employed, one might be skeptical, but the infection may be carried through the blood from many distant sources, and if there were no other source, the gums, teeth and alveolar process are in many people the most perfect of incubators and are abundantly supplied with pathogenic microbes, especially that of pus, so that from this source, if from no other, pus microbes and possibly other pathogenic germs could be taken up by the blood, and by locating at the point of least resistance, result in the lesion under discussion, it being known, that under different environment the same microbe may produce different results.

Roswell Park, under "Source of Infection," says: "The oral cavity and pharynx are never free from bacteria. Miller studied over one hundred species that he has found under various circumstances in the human mouth. Some of these are pathogenic, others are apparently absolutely innocent. Many of the forms which grow in saliva will not grow in ordinary media. Miller has also shown that all forms of dental caries are but expressions of bacterial invasion, even of those apparently most solid structures, the teeth; and of late we have been taught more fully that such invasion may extend far beyond the confines of the teeth alone, and may spread to various, even to distant, parts, and produce possible fatal mischief. Abscesses in the brain and extensive septic infections have been clearly traced to invasion along the line of the dental troubles. One of the most virulent of all the common inhabitants of the mouth is the pneumococcus of Frankel . . . which getting into general circulation through the tonsils or other possible ports of entry about the mouth causes serious septic and inflammatory disturbances in widely distant regions. Aside from dental caries, a widely opened port of entry is often afforded by those ulcerations around the margins of the gums which are produced by accumulation of tartar. Disease in the antrum of Highmore, for instance, and many other local destructions are frequently caused in this way."

Now is it not rational to believe that in lesions of the periosteum, whether traumatic or otherwise, and regardless of what bone of the body it may be on, we could have the progressive destruction of that membrane as above described?

The writer believes we can, for we certainly have in a very large percentage of people a constant source of infection, and in every person the conditions in the minute anatomy to permit of what might be termed "periosteal caries" from bacterial origin.

NOTE.—In the discussion of this paper, the term "caries" has been largely objected to, and those of "ulceration" and "necrobiosis" have been suggested. Ulceration is not appropriate, in the writer's opinion, for it implies death of tissues in which the cells are composed of liquid protoplasm, a condition which does not obtain in the cells of the periosteum; the same is true of necrobiosis or coagulation necrosis, which processes attack the cells with protoplasm and not the connective tissue between the cells; the periosteum, being composed of connective tissue, could not come under any of these heads.

Klebs found that "karyolysis is due to the action of chemical products of bacilli," hence mycotic necrosis, or karyolysis of periosteum seems next appropriate to caries.

Miller, in treating of "dental caries," says: "Dentine may be defined as a dense glue-giving basis substance, etc. . . . The relations of Sharpie's fibers to the progress of decay in the cementum is very significant, etc. . . . They (Sharpie's fibers) thereby facilitate the invasion of bacteria, etc." Now, Sharpie's fibers when decalcified are composed of connective-tissue substance, and when *in situ* are many times continuous with the fibers of the periosteum, being like it in composition.

Now, all the connective-tissue substances of the body are glue-giving, and the substance of the periosteum is composed entirely of these fibers, hence caries, which is always mycotic, seems as appropriate for the bacterial destruction of periosteum as to the other glue-giving tissue of the body. Mycotic periosteal caries might possibly be better than the title used, but caries signifies mycosis, hence does not need qualification.

MEDICINE.

ITS PROGRESS, PROBLEMS, AND PROSPECTS.*

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(Continued from p. 529.)

In the future, the various internal organs may prove to be luxuries rather than necessities. Ribs, the sternum, and portions of the chest wall are now resected with impunity. Tumors of the spine, and in fact all tumors, are now far more amenable to treatment than formerly. The advance in plastic surgery has been very great. Senn's method of making intestinal anastomosis has greatly advanced abdominal surgery, and we now remove portions of the intestine that are injured or diseased. In cancer of the rectum, large portions have been resected—in some cases as much as twelve inches—with a mortality of 20 per cent., and permanent cures in one-third of the cases. Dr. Guiseppe Ruggi reports the "successful resection of ten feet and nine inches of the small intestine of a small boy," 8 years of age. In five weeks the child was perfectly well. Dr. Dressman, in thirty

* Read before the Mercer County (N. J.) Medical Society, at its Fiftieth Anniversary, May 23, 1898, and subsequently revised.

or more cases, has resected the intestine by the yard. Suprapubic cystotomy, an operation that was reintroduced in 1875, has greatly facilitated the removal of certain conditions of the bladder. Formerly there was only palliative treatment for enlarged prostate; now the patient can have his choice of prostatectomy, orchidectomy, or resection of the vas deferens. The radical cure of hernia is modern, and we have rarely a death or a recurrence of the trouble. Fifty years ago the removal of goiter was almost surely fatal. Gibson tells us that "favorable terminations are extremely rare," and that the operation "is attended with difficulties which should dismay the most expert and enterprising surgeon." We now operate on goiter, and remove laryngeal growths, with great success. In 1895 Kocher reported 1000 operations on goiter with only 1 per cent. mortality. According to Reverdin, the mortality in 6103 operations has been 2.88 per cent. For interglandular enucleation, and in uncomplicated cases, the mortality has been about zero. Subcutaneous osteotomy was introduced by Langenbuch in 1854. In 1873 Esmarch introduced the rubber bandage, making many operations bloodless—thus adding to the convenience and safety of operations. Orthopedic surgery, operations on nerves, etc., have been largely developed during the last half century. Billroth "made the first resection of the larynx and of the stomach."

America has contributed largely toward the advancement of surgery. She gave to us anesthesia, the successful ligation of the arteria-innominata, the operation for vesicovaginal fistula, ovariotomy, intestinal anastomosis, cholecystotomy, etc. Wells and Morton gave to us anesthesia. Valentine Mott first tied the innominate artery, and was the first to successfully extirpate the clavicle for tumor. Marion Sims discovered the operation for vesicovaginal fistula. McDowell performed the first rational ovariotomy, and Nicholas Senn gave to us intestinal anastomosis. Cholecystotomy was first performed by Bobbs of Indianapolis. John Collins Warren first successfully tapped the pericardium, and Henry J. Bigelow performed the first excision of the hip in this country, and in 1852 invented the operation known as litholopaxy. Nathan R. Smith invented the anterior splint. Many other operations, together with instruments, splints, mechanical devices, and methods of technic have been the result of American genius. We cannot pause to describe these various operations, but will give a brief history of ovariotomy.

The first successful ovariotomy was performed by a sow-gelder of Germany, on his daughter, in 1517, but the first rational and deliberate ovariotomy was performed by McDowell of Kentucky in 1809. This operation, however, was not established till 1858, when Wells took it up. Gibson, whose surgery was published in 1845, does not mention ovariotomy, but "Liston and Mütter's Surgery," which was published in one small volume, in 1846, speaks of the "Removal of Ovarian Tumors," in the following language: "I need not tell you that wounds of the abdomen are dangerous; patients perish from trifling operations where the viscera are at all involved, and yet you are aware that, of late years, the belly has been opened intentionally with the view of ascertaining the existence of tumors, and of taking them out. Some people do not hesitate to make a hole in the abdomen, put in their fingers, and feel what is there, strangely enough exemplifying what Hudibras says: 'As if a man should be dissected to see what part is disaffected.'" Liston condemns the operation, and Mütter says that "in a few years it will be confined to the oblivion it so richly merits." Meigs, in 1862, declares that those who operate should be indicted for murder, as the operation is a crime, and Dieffenbach, one of the boldest of surgeons, in 1843, wrote that ovariotomy was murder, and that every one who performed it should be put into the dock. Now if these cases are not operated upon it would be considered as culpable neglect. Mütter states that from 1809 to 1846 there had been seventy cases of ovariotomy reported, and he gave the particulars of thirty-one cases. "Out of these," he says, "sixteen died; in some of them there was no tumor, and in some it was not removed." In 1847 there had been less than forty ovariotomies performed in America, and the mortality was over 50 per cent. Notwithstanding this high mortality, the operation finally became a popular one, and it is said that some surgeons have performed from one to two thousand operations with a present mortality of about 3 per cent. Tait of Birmingham, and Keith of Edinburg, in 1886, reported a mortality of only 3 per cent. Lately Dr. R. L. Morris succeeded in transplanting the ovary, in two out of five cases, and pregnancy followed. Even a small piece of an ovary is sufficient for transplantation. Sims and Emmett were the pioneers in American gynecology. The first journal devoted to obstetrics and gynecology appeared in 1868, but the specialty of gynecology was not recognized exclusively by any medical journal until 1869, when the *Journal of the Gynecologic Society of Boston* was published, by the first society of its kind in this country or Europe. The medical schools, at this time, had no department of gynecology—obstetrics covered all this ground. Dr. Atwood, in 1745, became the first obstetrician in America. At this time obstetrics was regarded as unbecoming a gentleman. Owing to the great prejudice against male accoucheurs, and the treatment of female complaints by men, the special diseases of women were comparatively unknown until a recent date. From the days of Hippocrates until quite a recent period they speak of ulcer of the cervix, pyometria and dropsy of the uterus. Emmett first showed that those so-called ulcers were simply lacerations or tears, and devised the operation of trachelorraphy for their cure. Pyometria we now recognize as pelvic abscess, and dropsy of the uterus as ovarian cysts. In early Roman times, Soranus and Themison described vaginal hysterectomy, and in 1507 Brengarius described the removal of the inverted uterus. The first operation for the removal of a malignant uterus was performed by Patella in 1812. In 1813 J. C. M. Langenbeck performed a vaginal hysterectomy for the removal of a cancerous uterus, which Senn tells us was "the first deliberate attempt for removal of the uterus through the vagina for cancer." This operation was a success. On April 16, 1850, Paul F. Eve, an American, performed a vaginal hysterectomy. The third deliberate operation was performed in 1882 by Sauter. Ambroise Paré revived the use of the speculum used formerly by Soranus. Récamier gave us the uterine sound and curette, and Lambelle, Boivin and others added greatly to the development of gynecology. Simpson, by his original and vigorous writings, did much to advance the study of uterine displacements and uterine pathology, and Bennett did much to extend our knowledge of inflammation of the uterus. But it remained for America to give to gynecology it greatest impulse. "If all that Sims had done for gynecology were suppressed, we should find that we had retrograded at least a quarter of a century," says T. Gaillard Thomas. Sims' "Clinical Notes on Uterine Surgery," published in 1863, completely revolutionized gynecology, and gave such dignity and importance to the

special diseases of women, that professorships of gynecology, that were formerly few and unworthy the name, now sprung up in every medical school, and assumed a high degree of importance. Sims' silver wire, perforated shot, and especially his speculum, which allowed a thorough inspection of the vagina, made the treatment of vesicovaginal fistula practicable. Owing to the great advance in gynecology it is said that abdominal hysterectomy is now no more dangerous than was ovariotomy five or six years ago.

The advance in surgery and the allied sciences has given us many delicate instruments for diagnostic and other purposes, such as the stethoscope, cystoscope, gastrodiaphanoscope, electric headlight, clinical thermometers, ophthalmoscope, laryngoscope, otoscope, spectroscope, specula, endoscope, protoscope, aspirator, retractors, hemostatic forceps, transfusion apparatus, sphygmograph, cardiograph, kymograph, blood-counter, hemometer, hematokrit, tambours, centrifuge, and various electric apparatus. The phonendoscope, which has just been invented by Blenchi and Bazzi of France, is said to gather up all vibrations, condense them, and carry them to the ear far better than the stethoscope. The scientific progress in surgery is due more to the development in bacteriology, pathology, embryology and comparative anatomy; to the discovery of anesthesia and antisepsis and to delicate instruments of precision, than to any improvement on old methods in the technic of the operation, or to any increased skill on the part of the modern surgeon. In quickness and manual dexterity the surgeons of the past may have exceeded us. It is said that Mareschal, surgeon to Louis XIV, performed eight lithotomies in half an hour. Instruments of precision have greatly aided diagnosis and facilitated operations. For example, Kelly's urethral speculum and the knee-chest position enable us to see the mucous lining of the bladder to catheterize the ureters, and to pass the long elastic catheter into the pelvis of the kidney itself. The unique and startling discovery of X-rays, in 1895, for example, has done much to increase the diagnostic skill of the surgeon. Facts are now clearly set forth by radiographs that were formerly smothered in surmise. By means of the skiagraphs we detect foreign bodies in the soft parts and recognize the existence of fractures, dislocations, irregularities, deformities, new growths, calcareous infiltration of arteries, calculi in bladder and kidneys, malformations, etc. The skillful and proper use of the Röntgen rays will mark an epoch in the history of medicine. Great has been the advance in surgery. All splints, dressings and surgical appliances have been greatly improved. Cohnheim's experiments, in 1867, greatly increased our knowledge of inflammation, and of the treatment of fractures. Previous to a knowledge of bacteriology, antisepsis, and the true nature and cause of inflammation, compound fractures were regarded as very serious. The mortality was said to be two out of three, now it is scarcely more than two out of every hundred. Inflammation was formerly regarded as essential to the repair or the healing of wounds, and suppuration was looked upon as normal. Now we regard inflammation as independent of the healing process, and suppuration as the result of pyogenic organisms. Wounds are now kept aseptic, and suppuration is almost unknown. Nussbaum says that "antiseptic catgut is without doubt Lister's greatest discovery," as it did so much toward keeping wounds aseptic. Senn expressed the same view, and said that "the aseptic absorbable ligature is one of the greatest achievements in modern surgery."

Owing to the great advance in surgery, surgical diseases are differently classified, and differently treated. Improved classifications and methods; the great number of trained laboratory and clinical workers; and the great number of libraries, laboratories, journals and societies, all indicate future advance, as well as present attainments. This increase in surgical knowledge has added much to the comfort, happiness and length of life of suffering humanity. Many that were helpless cases, in 1848, are now operated on with success. The results of antiseptic surgery have been so wonderful that surgeons are tempted to depend more upon the brilliant and spectacular results of the knife than upon the slower and less impressive methods of nature. It has been said that "the modern surgeon, clad in antisepsis as the Lady in Comus was 'clothed round with chastity,' defies the rabble rout of microbes, and dares things, which only a short time ago, were looked upon as beyond the wildest dreams of scientific enthusiasm." There is enough that is heroic in modern surgery to please the grim prophet of hero worship. The ambition to discover something new and brilliant often leads to hasty conclusion, and blinds one to scientific thought and patient research. Notwithstanding this, medical science, and especially the science of surgery, is in advance of all others. The surgery of the future will be remedial rather than radical—preventive rather than curative. We will then remove diseased portions of an organ rather than the entire organ. The tendency is toward conservative surgery. A greater knowledge of natural and acquired immunity, of serotherapy, etc., is tending to make surgery remedial and preventive. A conservative, efficient, and conscientious surgeon, who realizes that his first duty is to his patient, is a Christian altruist and a benefactor to the human race. With this very brief and imperfect narration of the progress in surgery, we will pass on to a very brief consideration of dermatology, and conclude with a few words on present problems and future prospects.

Fifty years ago dermatology was in a state of chaos. John Hunter divided skin affections into "those which sulphur could cure, those which mercury could cure, and those which the devil himself could not cure." Willan and Bateman, in 1808 and later, attempted to reduce this chaos to cosmos. This attempt met its greatest fulfillment by the publication of Orasmus Wilson's work, on "Diseases of the Skin," in 1851. But later Hebra's writings completely revolutionized dermatology and formulated a classification based on the pathologic anatomy of the skin. Previous to this time it is said that the doctor in his treatment of skin diseases "aimed at nothing and hit it." Professor James C. White first introduced Hebra's teachings, in 1859, and in 1861 "gave the first course of lectures on diseases of the skin, at Harvard." The first American text-book on dermatology appeared in 1845, written by N. Worcester. Nearly all dermatologic lore at this time was obtained from Paris and Vienna. The first lectures on dermatology were given in some of the medical schools of New York, in 1846. The *American Journal of Syphilography and Dermatology* was founded in 1870, and The American Dermatological Association in 1877. Up to this time America had contributed but little to dermatology; now Duhring, White, Bulkley and others, are recognized as high authorities. The development of microscopy and bacteriology led to a more accurate diagnosis, a better classification, and to an increased knowledge of the nature and cause of skin diseases. The etiology of most of the skin diseases is now accurately known. It is known that many diseases are due to parasites and microbes.

Lupus, leprosy, carbuncle, glanders, sycosis, furuncle, impetigo contagiosa, and most probably syphilis, eczema, psoriasis, alopecia areata, acne, and certain forms of erythema, seborrhea, etc., are of microbic origin. This knowledge has led to the use of the parasiticides and germicides, which, together with the use of serums and organic extracts, promises much for the future of dermatology. It may be long before a complete classification of diseases of the skin is possible, still great advance in this line is being made. We now leave nature more to herself, and we soothe and strengthen rather than irritate and deplete. Pathologic investigation has determined the nature of the various skin excrescences or growths, and the various other branches of medicine are adding greatly to our knowledge of the treatment of skin diseases, so that a continuous advance in dermatology is assured.

In conclusion, we will briefly consider some of the present problems and the future prospects of medicine. As great as has been the progress in medicine during the last fifty years there are still many problems that remain unsolved. Seneca said that "there is always something left to do, and that even after a thousand centuries no one will lack the opportunity to discover more." Those who come after us will find plenty of occasion to wonder at the ignorance of their forefathers, for medicine is still an unfinished science, and an imperfect art. Medical knowledge is at present a segment and not a perfect circle, hence medicine is still full of mysteries, and some medical truths are as yet imperfectly grasped. The attitude of every true, conscientious, scientific student of medicine, is that of a humble seeker after truth, for there are none so wise that truth becomes to them a perfect circle. Unprejudiced and intelligent observation of the phenomena of nature characterizes the medical profession of to-day. This has accomplished much in the past, and has brought us to the dawn of still greater discoveries. There is no science to-day that has made greater strides than that of medicine. The progress of the past is a guarantee that the problems of the future will receive earnest attention, and final solution. But as yet we do not know the cause of many phenomena that daily confront us. There still remain many problems in diagnosis and therapy. The bedside study of cases is still essential, for no specialist in his laboratory, no microscopist, can always give us an accurate diagnosis. There must be still clinical study and observation superadded to all instruments and appliances for diagnosis. Improved methods can never take the place of thought and rational observation. We must rely upon self, as well as upon machines. In so doing we will often find that clinical observation is more reliable than mechanical aids alone. For example, almost every pathogenic germ has been found in the secretions of healthy individuals. The bacillus of diphtheria has been found on the fauces of hundreds of healthy children. The microscope often fails to reveal the tubercle bacillus, when consumption is known to be present. Dr. Heneage Gibbs, one of the foremost bacteriologists, recently denied the "importance of bacteria as a causative factor of disease." He declares that he "has conducted hundreds of autopsies on consumptives without finding a trace of the bacillus of tuberculosis." The microscope, and nearly all tests and appliances are, from a diagnostic standpoint, far from accurate. Ehrlich's diazo reaction in the urine and Widal's reaction in the blood of typhoid cases are important and quite constant; but not distinctive or pathognomonic, as these reactions are found in a number of other infectious diseases, and are sometimes wanting when typhoid is present. These reactions, therefore are of general, not of special significance. The degree of the reaction usually indicates the severity of the disease. The limitations of the microscope, and the fallibility of many instruments and tests, greatly add to the problems in diagnosis, and also in therapeutics, for the application of remedies must be based on skillful diagnosis, rather than upon the nomenclature of disease. We need a more correct diagnosis and a better nomenclature of disease, before we can trace, by cause and effect, the result of remedies and formulate a cure. Symptoms should be classified in a scientific manner so as to aid us in making our inductions. We could then more easily determine the beneficial symptoms from these that are detrimental. In order to do this we must understand the exact nature of disease and must ascertain the various causes that produce disease. This is most difficult, for we now know that disease is not an entity due to a simple or specific cause, but is usually the resultant effect of many causes. We have, therefore, no distinct diseases, hence "no absolute specific character belongs to any disease." The great problem in diagnosis, therefore, is how to ascertain all the casual factors that constitute any given disease, so that we can remove these causes, and prevent their evil effects. The increase in our knowledge of the causes of disease is an index of the real progress that we are making in the science of medicine. We now doctor causes rather than symptoms, for prophylaxis is the very essence of cure.

(To be continued.)

CRIMINAL MORPHOMANIA AND CHRONIC MORPHINISM. DISCUSSION.*

DR. C. H. HUGHES, St. Louis, MO.—In regard to Dr. Crothers' clinical presentations, I should hardly characterize those as cases of double personality in the sense in which we are accustomed to regard mental phenomena. They are alterations of personality, varying conditions of personality, alternative personal states exhibited in all forms of opium addiction when the morphia is withdrawn. There is always a contrast between the patient with morphia in him and with morphia out; that is, the opium habitué, the patient who has become a true victim of the opium psychosis.

The medicolegal aspect of the subject is interesting. I remember being called on to testify in regard to a patient who had been connected with an asylum in Fulton, Mo., many years ago; the Cowgill will case, in which I had occasion to introduce the altered mental state of the patient. This man made a will which the courts did not sustain. I made a statement then that opium changed the personality of the individual, and that it had a tendency to undermine the moral sense of the individual; that opium patients were not to be trusted when the opium was out of them; that they would resort to any means to get morphia or obtain money in order to satisfy their appetite. Almost any opium habitué who is out of opium and has a brass watch will try to pass it as a gold one to get money to buy morphia. An opium habitué, when the morphia is entirely out of him, suffers as we know in such a way psychically and physically that it must resort to any means, as a dying man catches at a straw or a starving man steals to satisfy his hunger.

There certainly must take place a degenerative change in the psychic neurons after the long influence of opium toxicity. We ought to arrive at some consensus of opinion in this matter in order to testify correctly in courts. But I should not call these Jekyll and Hyde cases that we so often see in opium habitués true cases of double personality. In the latter cases, as seen in asylums, the individual is one day absolutely one thing, and the next quite another, having completely changed

*This discussion accompanied the papers of Drs. T. D. Crothers and A. J. Pressey (see JOURNAL, August 12, pp. 388 and 391), and should have been printed at that time.

his identity, and retaining no vestige of his former self, such conditions as we find in the automatons of the epileptic and epileptoid states.

As to the treatment, it is a good safe rule to endeavor to size up your patient and gauge your dose according to his capacity for reduction. When you have once reduced the dose, endeavor to make no backward steps; if the symptoms of too rapid withdrawal appear, the sore muscles, and the psychic symptoms, and the diarrhea, the best plan is to stop right there and make no further progress until you have built your patient up to that point. The wisest plan is to gauge your doses so as to endeavor not to bring on these symptoms.

DR. BLOCK—We had a young physician, with a good practice, whose faculties seemed to become more keen after the use of morphin, and who was the greatest thief in the town; he would steal bicycles and take them to pieces, and typewriters and change their parts. When he would be accused of the fact, in the most artful and unassuming and innocent way he would explain the matter and convince everyone that he was the wrong person. It was only after the greatest effort that the courts could be convinced of his innocence: that his acts were due to morphia, which caused the hallucination, and that they were not due to his rascality.

DR. DANIEL R. BROWER, Chicago—I thank Dr. Crothers very much for his very interesting presentation of this important subject. The cases are a little different from any that I have ever had under observation, and I can readily conceive why such cases may not be quite frequent. I think that we all recognize the fact that morphia, very much more than alcohol, deranges, disturbs or alters the personality. There is no question about the fact that these morphia people are deceivers ever.

As to the treatment of these cases, while I indorse Dr. Pressey's method in great measure, I want to take exception to one point that he seemed to emphasize, and that is the undesirability of treating these cases in general hospitals. I have been treating them in general hospitals for twenty-five years. All that I desire is a good nurse, and I do not find that they need so much personal attention if this requirement is fulfilled. I have for years been satisfied of the great advantage of the gradual and systematic withdrawal, and at the hospital we have this very simple proceeding: A certain solution is prepared, each teaspoonful of which represents at the beginning what is the ordinary dose of the patient—i. e., the least dose that will suffice to keep his nervous system in fair condition—and then for every teaspoonful of the morphin solution that is taken out the nurse is instructed to put a teaspoonful of water in, and in this way a very gradual withdrawal takes place.

I almost invariably practice putting these patients to bed and giving them daily massage and faradic electricity, and I think the great perturbations that occur in the nervous system when they get down to a certain point are vastly diminished by the prolonged continuous rest and by the use of the massage and the electricity, recognizing, with Dr. Pressey, the great advantage of strychnia and the other remedies which are tonics to the nervous system and circulation.

DR. E. S. PETTYJOHN, Alma, Mich.—I have found that all morphin habitués are very much alike; doctors of divinity are just as prone to tell what is not true as anyone else. I would suggest that at the close of the treatment, when the amount taken is small, we often make a mistake by thinking that we can drop it when it is down to 1/16 or 1/20 gr., but that is the hardest time for the patient during the whole treatment. We would have better success if we continued the small amount for a somewhat longer time.

As to Dr. Brower's plan, I would hardly know when to stop using out of his bottle. It would be a little difficult to tell, unless we have all the time there is—and we do not usually have that much—when to stop. I am in the habit of using hydrotherapeutics, electricity and massage, and am sure that we help the patient a great deal by aiding the elimination. We ought to get down to 1/32 gr. and hold the patient there for some time before finally withdrawing the drug.

DR. HAMLIN of Tennessee—I am a general practitioner, meeting with cases in country communities. We treat these various cases in our country villages and we know our conditions individually. In the cities you know your patient at your office, or hospital, or sanitarium, but you do not know his private life or family history; you get what they give you for their family history, but you can not say you know the family history of your patients. I wish to emphasize the point made by Dr. Pettyjohn, as I believe that we ought to keep beyond the 1/32 or 1/64 gr., and keep up the hypodermic dose of water. In one case in my experience the reduction was gradual and the patient's health was not affected, but after reducing the dose down to 1/64 gr. I told the nurse to omit the morphia and continue the hypodermic injection, impressing the patient with the fact that the same injection was being given. After the morphia had been omitted for two weeks, the patient was told what had been done, and the same train of symptoms at once resulted that we would have had from a sudden withdrawal of the morphia.

DR. L. B. TUCKERMAN, Cleveland, Ohio—I am also only a general practitioner, and I feel that you neurologists ought not to be quite so hopeless as to what the general practitioner can do, because it is the exception ,and not the rule, that those that we have to treat are able to go either to a private asylum or the hospital. Although theoretically, from the specialists' standpoint, all cases are hopeless if treated by the general practitioner, practically I venture to say that two-thirds of the cases that occur must be treated under those *a priori* hopeless conditions. The interest of the general practitioner would be greatly increased if that hopeless feature were not emphasized so much. I remember an opium fiend in a private family, where they followed the plan outlined by the last speaker. They bought the usual amount of opium, and made an extract of thoroughwort, and mixed the opium with that, gradually reducing the proportion of opium in the mixture until they got the patient entirely weaned from the opium and taking the pure extract of boneset without knowing the difference.

DR. C. H. HUGHES, St. Louis, Mo.—I did not attempt at all to discuss the treatment of the morphin habit. Since the introduction of codeia I have always preferred its use. The dyonin treatment is, I think, going to be the best substitute treatment. Quinia is one of the best substitutes for the morphia addiction that you can use during its withdrawal.

DR. A. E. STERNE, Indianapolis, Ind.—While I heartily subscribe to the old plan of gradual reduction of morphin, I do not adhere to any set rule or principle, and do not follow a routine treatment. I have had a great many of these cases to treat. I have not heard a word in this discussion as to the why or wherefore of the gradual reduction. You have not explained the cause or origin of these abstinence symptoms in any form. It seems to me that until they are explained we can not form a thoroughly rational theory of these cases.

Dr. Pressey spoke of the rapid treatment, and spoke of those subjected to it as being persons of extreme courage. I must disagree with Dr. Pressey. If the case when it comes to me, seems strong enough physically—and if I fear a heart collapse I substitute some other stimulant in the place of morphin—certain cases of morphinism never get one particle of a grain of morphin after they come under treatment. I have yet to see the case where abstinence symptoms arose to any marked extent, even among members of our profession who knew what the so-called abstinence symptoms were. The abstinence symptoms arise, not because we take away the morphia, but because the system is acidulated, and by the use of bicarbonate of soda and vichy water we do not fear these symptoms. I believe that by the chemical method, with lavage of the stomach, with the neutralization of the acid, and by the use of faradic electricity, we get quicker and more permanent results than we do by the slower method, and with a much less waste of time.

DR. T. D. CROTHERS, Hartford, Conn.—My object in presenting these cases, and the new facts which they point out, is to show that the phenomenon of criminality has, in many cases, a distinct physical origin, also that in drug taking, particularly from morphia, criminal impulses and acts occur that are unknown. They are literally forms of insanity not known or understood at present. In the treatment of morphinism, the withdrawal of the drug is of much less importance than the building up and strengthening of the system against the possibility of relapse in the future. The exact methods of withdrawal will vary with the physician, but the results will be the same in all cases. The real treatment will be the degree of vigor that can be cultivated in the patient. These cases are

exhausted and poisoned, and require the most complex variable treatment suitable to the wants of each.

DR. A. J. PRESSEY, Cleveland, Ohio—I can hardly understand how it would prove that the patient was insane because he became so when you take away the morphin, because any patient would do that. The patient is always so affected by the withdrawal of the drug. In regard to the reduction of the morphin by adding water to the extent of the morphin taken out of the solution, I can not understand how you could tell when the patient was off the morphin, unless a new solution was made.

Dr. Crothers' statement to the effect that he considers the manner in which the morphin is withdrawn the least important of any part of the treatment, I feel sure will not meet with a hearty response by those who have been treated, both by the method I have described and either of the older forms of treatment. Patients have a right to that form of treatment which produces the least possible discomfort consistent with their best interests while being treated for this or any other ailment. We know that patients do suffer terribly while undergoing the sudden withdrawal, the rapid reduction, or the usual slow reduction methods. With the method that I have described, properly carried out, more than 90 per cent. can be cured and feel fully as comfortable while having the morphin withdrawn as while using it *ad lib.* In my opinion the manner of withdrawal is very important.

Therapeutics.

Rhinopharyngitis in Young Children.

A simple procedure for local treatment is recommended by Gaston, viz., the introduction into the nostrils, three or four times a day, of a cotton tampon rolled to a point, covered with borated vaselin, with or without the addition of an astringent, such as the following:

℞ Antipyrin ..... gr. viii-xvi
Acidi borici ..... gr. vi
Vaselini ..... ʒv
M. Ft. ungt. Sig. External use.

If the child greatly objects to the tampons one or two drops of the following mixture should be instilled into each nostril night and morning:

℞ Mentholis ..... gr. viii
Olei amygdalæ dulcis ..... ʒi
M. Sig. External use.

If the direct treatment of the pharynx seems indicated it may be swallowed with iodin in glycerin, equal parts.

—*Doizy.*

Vesical Irritation and Prostatic Hemorrhage.

℞ Tinct. veratri viridis ..... ʒi
Morphinæ sulphatis ..... gr. ii
Ext. ergotæ fluidi ..... ʒiv
Syrupi zingiberis ..... ʒi
Aquæ, q. s. ad ..... ʒiii
M. Sig. Teaspoonful in water every two or three hours.

For the Relief of Pain and Vesical Spasms.

℞ Ext. opii ..... gr. vi
Ext. hyoscyami ..... gr. iii
Olei theobromatis, q. s.
Misce et fiant suppositoria No. vi. Sig. Introduce one into rectum and repeat in two hours if required.

Infantile Colic.

℞ Sodii bicarbonatis ..... gr. ii
Olei ricini ..... ʒi
Tinct. opii camphoratæ ..... gtt. ii
M. Sig. One dose, for acute indigestion, in infant six to eighteen months old.

℞ Aquæ menthæ viridis
Aquæ camphoræ
Aquæ, āā ..... ʒiv
M. Sig. Teaspoonful as required for pain and flatulence.

Acid Urine and Frequent Urination.

℞ Lithii citratis ..... ʒii
Tinct. opii camphoratæ ..... ʒi
Infusi lupulini, q. s. ad ..... ʒxvi
Sig. Tablespoonful in water after meals.

For Alkaline Urine.

℞ Acidi borici ..... ʒiiss
Ext. uva ursi fluidi ..... ʒiv
Ext. hyoscyami fluidi ..... ʒiv
Ext. lupulini fluidi ..... ʒiv
Syrupi zingiberis ..... ʒii
Aquæ, q. s. ad ..... ʒvi
M. Sig. Two teaspoonfuls in water after meals.

Simple Catarrhal Conjunctivitis.

℞ Acidi borici ..... gr. xl
Sodii chloridi ..... gr. vi
Aquæ camphoræ
Aquæ destil., āā ..... ʒii
M. Sig. Apply as lotion to eye every two hours.

Mammary Inflammation.

℞ Unguenti belladonnæ ..... ʒi
Unguenti hydrargyri ..... ʒiv
Ichthyoli ..... ʒiv
Cerati plumbi subacetatis ..... ʒi
M. Sig. Apply to breasts freely and employ tight breast binder. —*Med. News Formulary.*

Chlorin Water in Typhoid Fever.

The chlorin-water treatment of typhoid comes from India. The usual dose is a dram every three hours. Wilcox' conclusions, based upon an extended use of the remedy, are:

1. Chlorin can be safely used till complete disinfection of the alimentary canal is obtained.

2. It improves the appetite and digestion, lessens the fever, and cleans the tongue. The only odor to the stools is that of chlorin.

3. It causes increase of strength and lessens the nervous symptoms.

4. It shortens the duration of the disease, and under its influence the patient usually makes a rapid and complete recovery. —*Medical News.*

Ptyalism (Idiopathic or Mercurial).

℞ Tinct. myrrhæ ..... ʒi
Potassii chloratis ..... ʒvi
Aquæ camphoræ, q. s. ad ..... ʒxvi
M. Sig. Shake. Use as mouth wash every two or three hours.

℞ Formaldehydi (40 per cent. sol) ..... ʒi
Thymoli ..... gr. x
Tinct. benzoini compositæ ..... ʒii
Alcoholis, q. s. ad ..... ʒiii
M. Sig. Teaspoonful in wineglass of water as mouth wash every two or three hours. Also apply with camel's-hair brush to softened and bleeding gums.

The two following prescriptions are highly recommended by Dr. Geo. F. Butler:

℞ Potassii chloratis ..... gr. xvi
Tinct. ferri chloridi ..... ʒiiss
Syrupi ..... ʒi
Aquæ, q. s. ad ..... ʒii
M. Sig. Teaspoonful in water every two hours, for mercurial ptyalism.

℞ Camphoræ ..... ʒii
Tinct. myrrhæ ..... ʒi
Balsami Peruviani ..... ʒi
Spts. cinnamoni ..... ʒiv
Olei menthæ viridis ..... m. v
Olei carophylli ..... m. iii
Alcoholis, q. s. ad ..... ʒviii
M. Sig. Teaspoonful in a wineglass of water as a mouth wash every two hours. Also apply in full strength to softened and bleeding gums.

Impotence.

℞ Phosphori ..... gr. 1/4
Ferri arsenitis ..... gr. i
Strychninæ hydrochloratis ..... gr. xxiv
Quininæ hydrochloratis ..... gr. xxiv
M. Fiant pilulæ No. xxiv. Sig. One pill three times a day after meals.

℞ Camphoræ ..... gr. xxiv
Quininæ hydrochloratis ..... gr. xxiv
Ext. nucis vomicæ ..... gr. xii
Tinct. cantharidis ..... m. xxiv
Oleoresinæ capsici ..... gr. iv
M. Fiant pilulæ No. xxiv. Sig. One pill after meals.

Hair Tonic.

℞ Pilocarpinæ hydrochloratis.....gr. ii
Tinct. cantharidis.....℥i
Quininæ hydrochloratis.....gr. xv
Olei sesami.....℥ii
Glycerini.....℥iv
Spiritus myrciæ.....℥iv
Aquæ rosæ, q. s. ad.....℥viii

M. Sig. Rub into scalp night and morning, in sylphilitic subjects, also in loss of hair after prolonged illness.

—*Med. News Form.*

Abdominal Palpitations.

Nitroglycerin should be given in these cases. It may be taken during the attack, but it is better to give it once or twice a day, or, if needful, more often. A small dose will generally be found sufficient to affect the disorder. One one-hundredth of a grain every night is often sufficient. But if, as the palpitations subside, the other symptoms remain, it will be necessary to attend to them. However, it is surprising how the equalization of the circulation affects the other miscellaneous symptoms in many instances.—*W. Wade* in *Brit. Medical Jour.*

The following old prescriptions are perhaps more valuable than many newer and more elegant combinations:

Anti-Bilious Mixture.

℞ Podophyllin (resinoid).....gr. cxxviii
Cream of tartar, pure.....℥xvi
Buchu leaf.....℥xvi
Leptandrin (resinoid).....℥i
Gentian, ground.....℥ii
Alcohol.....Oiii
Water, boiling.....Ov

Dissolve the cream of tartar in three pints of the water, to which have been added four ounces of powdered borax. Boil for five minutes, allowing the mixture to cool, and then filter. Dissolve the resinoids in a pint of the alcohol, and add to the cream of tartar solution; also add the remaining alcohol, water, and the gentian and buchu, macerate for fourteen days. Express and filter. Dose, a teaspoonful.

Diuretic Mixture.

℞ Buchu, long.....℥vi
Uva ursi.....℥iv
Juniper berries, bruised.....℥ii
Acetate of potassium.....℥iss
Alcohol.....℥viii
Water.....℥viii

Macerate for fourteen days, and filter through paper. Dose, one to two teaspoonfuls three times a day.

Cough Syrup.

℞ Syrup of wild cherry.....℥iv
Compound syrup of squill.....℥ii
Tinct. of bloodroot.....℥ss
Mucilage of acacia.....℥i
Syrup of tolu.....℥ss

Mix. Dose, one teaspoonful every two or three hours.

Laxative Elixir.

℞ Fluid ext. dandelion.....3vi
Fluid ext. wild cherry.....℥iv
Fluid ext. gentian.....℥i
Fluid ext. licorice.....℥i
Fluid ext. senna.....℥iii
Aromatic elixir.....℥xivss

Mix. Dose, one or two teaspoonfuls.

Neutralizing Cordial.

℞ Powdered rhubarb.....℥ii
Carbonate of potassium.....℥ii
Powdered golden seal.....℥i
Powdered cinnamon.....℥i
Sugar, white.....℥lxiv
Brandy.....Oviii
Oil of peppermint.....gtt. xx

Macerate for fourteen days, and filter, or make by percolation. Dose, one to two teaspoonfuls.

Intermittent and Remittent Fever.

℞ Cinchonæ sulphatis.....℥ss
Liq. potassii arsenitis.....℥iss
Tinct. ferri chloridi.....℥iv
Syrupi zingiberis.....℥iss
Aquæ destil., qs. ad.....℥iv

M. Sig. Dose, a dessertspoonful after meals. (In chronic cases.)

—*Pendleton Tutt.*

Impotence.

℞ Ext. cannabis indicæ
Ext. nucis vomicæ, āā.....gr. xv
Ext. exgotæ aquosi.....℥i

M. Et. div., in pil. No. xxx. Sig. One pill morning and evening.

—*Da Costa.*

Pruritus Vulvae.

℞ Acidi carbolici.....gr. x
Morphinæ acetatis.....gr. viii
Acidi hydrocyanici diluti.....℥ii
Glycerini.....℥iv
Aquæ, q. s. ad.....℥iv

Fiat lotio. Sig. Apply twice daily.

—*Lombe Atthill.*

The Control by Arsenic of the Ill Effects of Thyroid Extract.

In the *Medical News* of July 8, reference is made to an article in the *Rev. de Therap.*, by Mabille, who hopes that he has found in arsenic a means of preventing the ill effects of thyroid extract, which are produced in some patients by this drug. The increased use of the thyroid gland, not only for myxedema, but for obesity, goiter, certain skin diseases, and in general for malnutrition, makes it important that there should be some means of controlling the vertigo, palpitation, dyspnea, anxiety, etc., from which patients who are particularly sensitive suffer. The writer observed that these symptoms disappeared in one of his patients when she was taking Fowler's solution and reappeared when she stopped the arsenic. From 2 to 12 drops of Fowler's solution at a dose was found to be sufficient to prevent any unpleasant symptoms even when taking 12 grains a day. Two other patients took arsenic with thyroid extract, with happy results, and the arsenic did not weaken, apparently, the force of the thyroid extract.

Apomorphin in Strychnin Poisoning.

Dr. H. B. Stanley of Elgin, Ore., says, in the *Medical Summary:* "The best way to administer it is by hypodermic injection. If administered hypodermically, ¼ grain should be injected into the cellular tissue of a strong, healthy man; if given by the mouth at least ½ grain should be given and followed by copious draughts of water.

"Even if cramping and convulsions have begun they will cease as soon as the remedy begins to act on the system.

"This remedy, if given hypodermically, will prove a sure antidote if given so as to act any time before the respiratory nervous center becomes paralyzed."

To Prevent Abortion.

℞ Tinct. opii deodorati.....℥ii
Chloralis.....℥ii
Ext. hyoscyami fluidi.....℥i
Syrupi acaciæ.....℥iv
Ext. viburni prunifolii, q. s. ad.....℥iii

Sig. One or two teaspoonfuls every hour or two until moderate somnolence.

℞ Extracti opii.....gr. iii
Ext. hyoscyami alcoholici.....gr. iii
Olei theobromatis, q. s.

M. Et fiant suppositoria No. vi. Sig. One by bowel as required.

Sulphuric Acid in Basedow's Disease.—Acting upon the suggestion that mineral acids exert a tonic action on the vasomotor nerves, H. Vetlesen administered 10 drops of the sulphuric three times a day to six "Basedowians." One recovered completely in a month; three were very much improved, and only two, both very old cases, failed to benefit by the treatment.—*Semaine Med.*

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

American Gynecological and Obstetrical Journal (N. Y.), August.

1.—*Ureteral Anastomosis. George H. Noble.
2.—*Inversion of Uterus, with Review of the Various Operative Procedures for its Treatment, and a description of the Writer's Operation for Chronic Inversion. B. Bernard Browne.
3.—Rectal Irrigation in Gynecology. Clarence Reginald Hyde.
4.—Neoplasms Interfering with Pregnancy, with Report of Cases. E. E. Tull.
5.—A Type of Paralysis in the Distribution of the Perineal Nerve Following Labor. Charles J. Aldrich.
6.—Interstitial Pregnancy, with Report of a Case Operated on Thirteen Months after Conception. Archibald MacLaren.

American Journal of Obstetrics (N. Y.), August.

7.—*Case of Spondylolisthesis, with Description of the Pelvis. J. Whitridge Williams.
8.—*History of the Early Operations for Fibroid Tumors. Charles P. Noble.
9.—*Operation for Complete Tear of the Perineum. Howard A. Kelly.
10.—*Preliminary Report of the Transplatation of the Ovaries. James F. McCone.
11.—Some New Instruments to Facilitate the Operation of Myomectomy. Howard A. Kelly.
12.—Surgical Treatment of Unrotated Occipito-Posterior Positions. Henry D. Fry.
13.—Note on Value of Blood Examination in Gynecology. Walter R. Griess.
14.—A New Handle and Grip for Scissors for Plastic and Other Delicate Work. Howard A. Kelly.
15.—Postpartum Reflections. "Casey."

Archives of Ophthalmology (N. Y.), July.

16.—*Hyperostosis Cranii, with the Report of Cases leading to Exophthalmus and Blindness. F. W. Ellis.
17.—Contributions to Technic of Advancement for Strabismus. Professor Schweigger.
18.—*Disturbances of Circulation in the Retina from Arteriosclerosis. C. Zimmerman.
19.—Tuberculous Iritis, with Parenchymatous Keratitis. S. Schultze.
20.—*Amaurosis Following the Entrance of a Well After the Use of Dynamite. L. D. Brose.
21.—Case of Poisoning from the Use of Eserin in the Eyes. Clarence R. DuFour.
22.—Refraction in Ancient Times. Vincenz Fukala.
23.—Operations which Increase the Motility of Artificial Eyes, and Their Partial Replacement by a New Prothesis of a Peculiar Form. Hugo Wolff.
24.—Conjunctivitis Folliculosa and Trachoma. O. Walter.
25.—Light Sense and Color Sense in Diseases of the Retina, Choroid, and Optic Nerve. Hans Krienes.
26.—Colomba of Both Optic Nerves without Colomba of the Uveal Tract. F. Hosch.
27.—Progressive Paralysis of the Levator. P. Silex.

Chicago Medical Recorder, July.

28.—*Science of Medicine and its Relations to the Public. Arthur Dean Bevan.
29.—*An Absorbable Intestinal Coupler. Jacob Frank.
30.—Enuresis Nocturna in the Female. Gustav Kolischer.
31.—Two Cases of Complete Ossification of Choroid and Lens. Chas. H. Beard.
32.—Guaiacol in Treatment of Malaria, with Presentation of Four Cases. Chas. J. Whalen.
33.—*Medicinal Efficacy of Nosophen and Antinosin in Eye, Ear, Nose and Throat Affections. James A. Lydston.
34.—*Exhibition of Rectal Dressings. J. R. Pennington.

International Medical Magazine (N. Y.), August.

35.—*Fever and Its Treatment. H. A. Hare.
36.—*Immunity and the Use of Normal and Non-Immunized Serums. Joseph McFarland.
37.—Case of Arthritis Deformans of Hip-joint. Chas. Greene Cumston.
38.—Treatment of Eczema. J. F. Schamberg.
39.—Asepsis and Antisepsis of Minor Operations. Chas. L. Leonard.
40.—Etiology and Diagnosis of Chronic Sthenic Gastritis (Acid Gastric Catarrh). Boardman Reed.
41.—Syphilis, Secondary and Tertiary Symptoms. J. D. Thomas.
42.—Cases of Eclampsia, Elephantiasis, Neuritis and Bronchiectasis. L. Smirnow.

Western Medical Review (Lincoln, Neb.), August 15.

43.—Certain Legal Relations of Physicians to Patient. F. A. Long.
44.—*Cases of Fracture of the Cranial Vault Exhibiting Some Unusual Features. A. F. Jonas.
45.—Mother and Child. Robert McConaughy.
46.—The Voice Crying in the Wilderness. S. D. Tobey.
47.—*Complications Following Surgical Operations. Byron B. Davis.
48.—Foreign Bodies in the Air-Passages, with Report of a Case. W. D. Shields.
49.—Puerperal Fever or Midwife Infection, Which? J. Lue Sutherland.
50.—Relations of Obstetrician and Gynecologist. W. O. Henry.
51.—Clinical Value of Blood Examinations. Fletcher M. Gardner.

Canada Lancet (Toronto), July.

52.—Pelvic Disease in the Female Insane. Its Significance and Our Responsibility. Ernest Hall.

Medical Examiner (N. Y.), August.

53.—Effect of Selection in Life Insurance. Emory McClintock
54.—Ordinary Clinical Examination of Urine. Thos. C. Craig.
55.—*Malarial Toxemia, Complications and Treatment, with Some Remarks on Quinin Intoxication. G. A. McBride.
56.—Differential Diagnosis of Cardiovesicular Murmurs. E. K. Root.
57.—Advisability of Insuring Certain Cases of Valvular Disease of the Heart for a Limited Term. A. McFarlane.

Merck's Archives (N. Y.), August.

58.—*Medical Treatment of Nervous Diseases. L. Harrison Mettler.
59.—*Rational Treatment of Diarrhea. R. G. Eccles.
60.—*Chloral Hydrate. Harvey J. Chadwick.
61.—*Ichthyol as an Internal Medicine. C. H. Powell.

Therapeutic Gazette (Phila. and Detroit), August 15.

62.—*Treatment of Summer Diarrhea in Infants. A. Jacobi.
63.—*Ibid. J. P. Crozer Griffith.
64.—*Ibid. L. Emmett Holt.
65.—*Ibid. Louis Fischer.
66.—*Ibid. Edwin E. Graham.

Colorado Medical Journal (Denver), August.

67.—*A Study of Rabies. Charles Greswell.
68.—Asepsis in Country and Private Practice; a New Sterilizer. Hamilton Fish.
69.—*Case of Tracheitis and Laryngitis. Minnie C. T. Love.
70.—*A Theory to Account for Rheumatism. S. J. Hubbell.
71.—Establishment of a Central Laboratory of Pathology in Denver. Charles A. Powers.
72.—What the Physicians and People of Colorado Need More than a Medical Bill. P. D. Rothwell.
73.—Contusions of the Eye. Wm. C. Bane.

Denver Medical Times, August.

74.—*The Urine in the Diagnosis and Prognosis of Non-Urinary Diseases. Edward C. Hill.
75.—*Extradural Spinal Meningeal Hemorrhage, with Report of Case. S. D. Hopkins.
76.—*Cause and Prevention of Uterine Cancer. W. W. Grant.
77.—Animal Doctors and Animal Patients. James Weir, Jr.
78.—A Good Tissue Builder. N. M. Basket.

North Carolina Medical Journal (Charlotte), August 5.

79.—Juvenile Criminals. Thos. F. Costner.
80.—Ileocolitis and Dysentery. W. G. Stafford.
81.—*Clinical Notes. H. A. Royster.
82.—Anesthesia by Suggestion. J. H. Fouts.

Southern Medical Journal (Orange, N. C.), August.

83.—Readiness. E. T. Dickinson.
84.—Asthma and its Treatment. G. A. Gilbert.

Journal of Medicine and Science (Portland, Me.), August.

85.—Cystitis in Women, the Importance of Local Treatment. John B. Shober.
86.—Puerperal Eclampsia and its Treatment. F. J. Taylor.
87.—Suggestive Therapeutics. E. M. Wing.
88.—Masso-Therapeutics. E. H. Judkins.

Texas Medical Journal (Austin), August.

89.—The Lawyer and the Doctor. Hon. John G. Winter.
90.—Knowledge is Power. John O. Scott.
91.—*Hernia, Ferguson's Operation. L. W. Hollis.

American Practitioner and News (Louisville, Ky.), July 15.

92.—*Charlatanism. Ap. Morgan Vance.
93.—*Normal Salt Solution in Surgery. James B. Bullitt.
94.—The Stomach Tube. H. H. Roberts.

Columbus (Ohio) Medical Journal, August 5.

95.—*The Full Bath at 90 Degrees F., in Treatment of Scarlatina. D. S. Hanson.
96.—*Reflex Nervous Disorders in Children. D. N. Kinsman.

Virginia Medical Semi-Monthly (Richmond), July 21.

97.—*Quantitative Estimation of Albumin in Urine. Chas. W. Purdy.
98.—Clinical Lecture: Multiple Neuritis, Paralysis Agitans, Epilepsy. J. Allison Hodges.
99.—*Operative Interference in Chronic Suppurative Otitis Media. Lewis S. Somers.
100.—*Surgical Complications of Typhoid Fever. H. M. Taylor.
101.—*Succedaneum to Digitalis. W. R. Inge Dalton.
102.—Metaphysics. Henry C. Eyman.
103.—*Passiflora Incarnata, Herschel Fisher.
104.—*Antitoxin in Treatment of Diphtheria. Edwin L. Morgan.

N. Y. Medical Journal, August 26.

105.—*The Anthemion. Wallace Wood.
106.—Subcutaneous Tenotomy. Biographical Notes. A. B. Judson.
107.—*Gunshot Wounds of the Chest in the Spanish-American War. Henry S. Greenleaf.
108.—Use of Parotid Gland Extract in Treatment of Ovarian Disease. E. Pierre Mallett.
109.—*Extradural Spinal Meningeal Hemorrhage with Report of Case. S. D. Hopkins.
110.—Puerperal State and Puerperal Hemorrhage: Derivation and Classification. Walker Bourne Gossett.
111.—*Report of Six Cases of Pneumonia Treated with Antipneumonic Serum. Antonio Fanoni
112.—Review of the Several Operations for Hemorrhoids: The Best Operation. J. Coplin Stinson.

Medical Review (St. Louis, Mo.), August 26.

113.—*Excision of Right Superior Cervical Ganglion of Sympathetic for Glaucoma, with Report of Case. James M. Ball.
114.—Gastralgia; Its Diagnosis and Treatment. Charles J. Boswell.

Medical News (N. Y.), August 26.

115.—*Certain Clinical Observations on Heart Disease. Edward G. Janeway.

116.—*Class Method of Gymnastic Treatment of Lateral Curvature of the Spine. Walter Truslow.
117.— Subcutaneous Emphysema Occurring During the Act of Vomiting. A. W. Dunning.

Boston Medical and Surgical Journal, August 24.

118.—*Pott's Paraplegia as Affected by the Correction of the Spinal Deformity: a Report of a Case. Joel E. Goldthwait.
119.—*A Hospital Clearing-House. Clarence J. Blake.
120.—*Volunteer Aid Work in Foreign Territory. Elliott G. Brackett.
121.— Report of Case of Puerperal Eclampsia with Complications. Edmund E. Hill.

Medical Record (N. Y.), August 26.

122.—*Report of Case Treated with Yellow Fever Serum. Alvah H. Doty.
123.—*Bright's Disease, or Nephritis. Walter Sands Mills.
124.—*Mucocele of Maxillary Sinus. W. Scheppegrell.
125.—*Evils of the Ritual Practice of Circumcision. Albert Miller.
126.—*Hernia of Vermiform Appendix. L. L. Hill.

Maryland Medical Journal (Baltimore), August 26.

127.— Reflections at the Thirty-third Mile-post in My Professional Career. W. F. Barclay.
128.—*Right of the State to Enforce Vaccination. J. U. Dennis.

Cincinnati Lancet-Clinic, August 26.

129.— Does it Pay to Live? Geo. J. Monroe.

Philadelphia Medical Journal, August 26.

130.—*Nephrectomy vs. Nephrotomy. Joseph Ransohoff.
131.—*Chronic Empyema of Accessory Nasal Cavities, with Report of Seven Cases. Geo. C. Stout.
132.—*Climatology of Nudity. William Duffield Robinson.
133.—*Original X-ray Work and Its Value to Stomach Diagnosis. Walter B. Metcalf.
134.—*Some Uses of Pilocarpin. Stephen Harnsberger.
135.—*An Anatomic Point in the Etiology of Nasopharyngeal Disease. Lenox Browne.

AMERICAN.

1. **Ureteral Anastomosis.**—Noble first describes and discusses the various operations of ureteral anastomosis, and concconcludes that each case must decide the operation best suited for its repair. If a primary operation, the point where the ureter is cut will probably decide it. High injuries preclude implantation and tend to make the anastomosis easy, low down or near the bladder they make it difficult and favor implantation. Between these there is a region not well defined, that will allow of some latitude of selection; when a long section has been removed the problem is a difficult one. In such cases the disposition of the proximal ureter is a serious question. Intestinal implantation has its dangers and discomforts. Skin implantation means all the distress of the repulsive fistula. Connection with the opposite ureter is probably only practicable when undertaken with coexisting dilatation as a tube larger than the ampulla is liable to obstruct the flow of urine from above. This might be overcome by giving the ureter to be transplanted an upward curve and anastomosing it to the wider portion of its fellow at the pelvis of the kidneys, or into the latter cavity even, if a lumbar incision is required. Implantation into the bladder will be required when the ureter is cut low down, and in secondary operations for injuries of the inferior extremity, for the cut off portion becomes occluded and shrunken so that anastomosis is impracticable.

2. **Inversion of Uterus.**—After noticing the history of this accident, Browne reports six cases, in the last of which he describes a new operation as follows: Bowels and bladder having been evacuated, the patient was then etherized and the inverted fundus drawn outside the vulva with a strong vulsella forceps; the openings of both Fallopian tubes were brought plainly to view and an incision one and one-half inches in length was made through the posterior portion of the uterus, avoiding the tubes and the larger vessels. Through this incision Sims' large dilator was passed up into the cervix and expanded to the largest extent. The rigid tissues of the cervix were felt to relax; then on withdrawing this dilator, Nos. 2 and 3 Hank's hard-rubber dilators were passed through the cervix; the finger was also passed to feel that there were no adhesions. The incision in the uterus was then sewed up with carbolized silkworm gut, and with slight manipulation the fundus was easily replaced through the now passable constriction. Recovery followed. Conclusions: 1. This operation is not proposed to supersede ordinary taxis in the reduction of chronic inversion of the uterus. 2. It is not more dangerous, but much more certain, than prolonged or rapid taxis. 3. We avoid the danger of bruising the tissues and rupturing the vagina. 4. As an operation for inversion it is less dangerous than laparotomy. 5. Unless there be adhesions, which rarely exist, we can always feel certain of reducing the inversion at one operation.

3. **Rectal Irrigation.**—The following are the conclusions in Hyde's paper. Rectal irrigation has been found to have a distinct value in: 1. Leucorrheas. 2. As a substitute for vaginal douching in young girls. 3. Acute and chronic ovarian and tubal lesions, with the possible exception of pyosalpinx. 4. Intestinal paralysis following sepsis. 5. After major pelvic operations to relieve any abdominal discomfort or tympanites. 6. Intestinal colic. 7. Doubtful in constipation. There is a distinct trend toward individualizing one's own particular line of treatment, and essaying to maintain an independent position. Established ideas are rarely rejected in preference to innovations, unless the latter are qualified to merit careful attention. Of these, rectal irrigation commends itself to gynecologists for thoughtful and unprejudiced consideration, as having seldom failed to meet the test on fair trial.

7. **Spondylolisthesis.**—Williams describes, in detail, the history of a colored woman who died in child-birth after symphysiotomy for pelvic deformity, in whom was found a rare case of spondylolisthesis or displacing of the fifth lumbar vertebra forward and downward over the sacral articulation. He reviews the literature of the subject and discusses the etiology. The deformity was evidently of recent origin, as she had passed through labor without difficulty four years previously. He is inclined to believe that it was due to deficient ossification and downward pressure. The patient had been in the habit of carrying heavy loads. As regards the frequency of the condition, he thinks it is more common than has been supposed. This is, however, the first one known that has come to autopsy in this country. It has probably passed unnoticed in many cases, as Dr. A. D. Bevan, Chicago, has stated to him that he has seen it several times in the dissecting-room. The article concludes with a bibliography of some fifty-seven titles.

8. **Fibroid Tumors.**—Noble reviews the history of operations for fibroids, reporting and listing the early operations. He gives to Kimball the credit of having first deliberately performed hysterectomy for fibroid, with successful results. He notices Koeberle's paper as giving an excellent résumé, but criticizes him for trying to make it appear that he had priority in this operation.

9. **Perineal Tears.**—In this article Kelly follows up former publication on direct union of the torn sphincter in complete perineal laceration, and describes his method in detail with illustrations. He reports twelve cases.

10. **Transplantation of Ovaries.**—McCone reports results of experiments on thirty animals, previously noted in the JOURNAL, May 13, p. 1034. He made his experiments in three series, the first having for its purpose the demonstration of the accepted facts that pregnancy may occur where there is no contact between the ovaries and Fallopian tubes. These may be passed. In the second series he reports successful results in transplanting the ovaries from one part to another part of an animal, or to a different animal of the same species. In these he succeeded in obtaining normal reproduction in rabbits from which he had removed the ovaries and grafted in those of another animal. In the third series, however, he shows that the ovaries of a dog can be successfully transplanted into a rabbit and continue to functionate. His conclusions are: 1. Contact between ovaries and tube is not essential for conception. 2. Ovaries grafted from one part of an animal to another part of the same animal continue to grow, to functionate, and pregnancy can and does occur. 3. An ovary grafted from one animal to another of the same species continues to functionate, and maintains the normal condition of tubes and uterus. Pregnancy can occur. 4. Ovaries grafted from one species to another continue to functionate, and seem to prevent post-castration atrophy of tubes and uterus. 5. Best results are obtained where the raw surface of the transplanted ovary is sewed to a denuded surface. He suggests that in certain cases the grafting of animal ovaries in human subjects may be beneficially employed to prevent atrophy and post-castration nervous symptoms, etc. He is now intending to continue his experiments and to test the rabbits with dog's ovaries with semen from both species.

16. **Hyperostosis Cranii.**—Ellis reports a case of this disease in a man 60 years of age, causing exophthalmus and blindness, and describes the condition generally. The diffuse

form to which this case belongs is rare or seldom recognized, and its causes are very obscure. Treatment is ineffective.

18. **Retinal Disturbances from Arteriosclerosis.**—Zimmerman reports a case of thrombosis from arteriosclerosis of a branch of the central retinal artery. He excludes embolus in this case, from the fact of its being non-observed, and particularly to there being no heart trouble and no complete blindness in the beginning, each of which points to endarteritis proliferans as a cause.

20. **Amaurosis from Dynamite Gases.**—Brose reports two cases of complete temporary blindness caused by descending into a well after the explosion of dynamite. In one patient the vision has been permanently impaired. In the other, who was less exposed, the trouble was only temporary. In both cases there was unconsciousness from the gas. He attributes the loss of vision to an acute retrobulbar neuritis caused by toxic agents taken up by the blood, affecting also the higher centers of consciousness.

28. See abstract in JOURNAL, July 1, p. 39.

29. Ibid, June 24, p. 1448.

33. Ibid.

34. See article, Ibid, May 13, p. 1061.

35. **Fever and Its Treatment.**—Hare combats the idea that fever is necessarily a harmful process. His propositions are: 1. That fever when excessive or prolonged is harmful. 2. That moderate fever, not too prolonged, may be of distinct advantage to the patient. 3. That moderate fever, not too prolonged, if it is not advantageous may be, on the other hand, not deleterious but may be regarded by the physician, without any anxiety, as a characteristic concomitant symptom, which we would naturally expect to find in a patient suffering from the disease which is present in the patient's system. Fever is a condition developed in all healthy animals as soon as they undertake to resist infection, and he does not, therefore, consider it a useless coincidence. He would therefore not employ antipyretic drugs to combat fever, since, as a rule, they interfere with the protective action of elimination of poison, the development of antitoxins, and the stimulating and supporting fever. The cold bath, on the other hand, while relieving the fever if it is excessive, in no way modifies these protective efforts.

36. **Immunity.**—After first undertaking to show that there is not any absolute immunity, but that it is affected by various conditions, temperature, diet, symbiosis of bacteria and modifications of their virulence, McFarland combats the idea that the blood of the normal animal is and must be the secret of successful therapeutics of the infectious disease. Antitoxin is something added to the blood and not normally present in it. He does not attempt to show what it is, and thinks that no one else can show it either.

44. **Fractures of the Cranium.**—Jonas reports four cases of cranial fractures, showing points of special interest. In the first there was a large loss of brain substance and a large amount of foreign matter, dirt, etc., imbedded in the cerebral structure, which was almost impossible to wash out. Nevertheless, the patient made a good recovery in four weeks. In the second case there was a condition of apparent consciousness for over two weeks, with subsequent and complete amnesia of the period. In the third, in spite of there being an extensive tear of the longitudinal sinus, it was successfully sutured, with an uneventful recovery. The fourth case was notable on account of the specially marked localizing symptoms. Jonas thinks the most important indications in the management of these cases are: 1, thorough disinfection; 2, adjustment of bone fragments; 3, control of hemorrhage. He gives details as to how he met them.

47. **Complication Following Surgical Operations.**—Davis calls attention to the importance, in operations, of attending to the eliminative action of the kidneys, of the most painstaking care to preserve asepsis, and searching for any serious infections from without and within. Shock may be avoided or modified by care in giving anesthetics, and as to the temperature of the room. Pneumonia, in his experience, has followed the use of chloroform as often as that of ether. Excessive vomiting after operation is distressing and somewhat dangerous; probably lavage of the stomach is most effectual as a means of stopping it. Other complications mentioned are ileus, iodoform intoxication, also the leaving of sponges or forceps in the abdomen, and secondary hemorrhage.

55. **Malarial Toxemia.**—The author of this article, Dr. McBride, has spent a great portion of his life in practice along the river bottoms of the Arkansas, Grand and Verdigris rivers in the Indian Territory, an intensely malarial district, where he has had splendid opportunities to observe disorders of this kind. In the present paper he calls attention particularly to the bad effects of quinin in certain forms of pernicious malaria. Quinin given in the usual doses in such cases will produce intense and even fatal intoxication. Sometimes it produces a simple hematuria, sometimes a hematuric fever with jaundice more or less severe, with all the symptoms of a fatal intoxication of the blood. Quinin, he says, will produce hematuria under two conditions: 1, chronic malarial intoxication, and 2, a particular individual idiosyncrasy. The latter is the special predisposing cause, the malaria, the condition that determines in the organism, this intolerance to quinin. Given in such a case, it does not have its well-known salutary effect, but causes instead a new febrile attack differing from the malarial paroxysm in coming on at a different hour and presenting different symptoms. The attack appears from one to six hours after taking quinin. While the patient is tranquil and without fever, he is seized with a convulsive tremor with lowering of temperature and mental trepidation. After one or two hours of this state the temperature rises rapidly, sometimes reaching 105. There is vomiting of bile, or bilious diarrhea, an uncontrollable desire to urinate, and the patient passes a large amount of bloody urine, repeated at frequent intervals. The paroxysm usually ends in twenty-four to forty-eight hours, and all the symptoms disappear except the jaundice, which may persist for several days. If no fresh intoxication takes place the patient regains his health after a long convalescence, but if the paroxysm is repeated by continuance of the quinin, and the dose is increased, he rapidly passes into a state of collapse and death ensues from cardiac paralysis. The treatment given is first to clear up the urine, which McBride does by ten-drop doses of turpentin every four hours; to evacuate the bowels; to repair the damage done to the blood and blood-vessels by tonics and preparations of iron, and to give an antimalarial remedy, which he finds best in arsenic.

58. **Medical Treatment of Nervous Diseases.**—Mettler's paper is largely a protest against therapeutic nihilism in the treatment of nervous disorders. He endeavors to point out the general indications for the different classes of cases, especially the degenerative types, and those due to toxins in the blood; those also of the vasomotor origin, in which the do-nothing plan certainly has no rational excuse with the remedies at our command. He notices the extreme views held by some, reflex action having been so overworked as a cause of nervous troubles that some have come to question such an etiologic factor altogether. "The passing of the reflex" is evidently not a catch word with him.

59. **Rational Treatment of Diarrhea.**—The first indication in the rational treatment of diarrhea is to expel the offending matter, but this, as Eccles says, does not constitute the treatment or work a cure. Lesions have been established and functions perverted, and the germs that work the mischief may still be lurking in the intestinal canal. The antiseptics have their part and, while we can not sterilize the intestines, we can make them as unwholesome for the bacteria as possible. Calomel is probably as effective as many of the newer drugs, but it has serious limitations. Salol, naphthalin, guaiacol, etc., in combination with a suitable astringent, are probably more satisfactory. As to the selection of the astringent, the author thinks tannic acid would be one of the most valuable, provided it could exert its action through the whole length of the intestinal tract, and he finds that tannalbin or tannated albumin meets the indications, either alone or in combination with ichthalbin and leaves little to be desired as regards results. Tannalbin is so harmless that its maximum dose has not been decided. From 10 to 30 grains every two hours are given, and even oftener if necessary. He adds a number of prescriptions containing these drugs, which he recommends.

60. **Chloral Hydrate.**—After noticing the dangers of chloral hydrate, the author asks, "What is it good for?" and replies that it is beneficial in vomiting from whatever cause, unless

it be from obstruction of the bowels, though even there it affords relief. For hiccough, even in the aged, and in typhoid fever patients, it is almost a specific. In infantile convulsions, injected into the rectum, it gives quiet sleep. It is a boon to the woman during pregnancy and in puerperal convulsions. In conclusion he reports a case in which he thought great benefit was derived from 10-grain doses at bed time, in a case of atheroma of the arteries, and he believes also of the cardiac valves.

61. **Ichthyol.**—Powell recommends the internal use of ichthyol in gastric fermentation, as better than all other remedies, and he has also been surprised to see its good effects in cases of locomotor ataxia, especially in the gastric disturbances of this disorder. In psoriasis the beneficial effect of the internal use of ichthyol is at once apparent. The disease is greatly modified by the remedy, but he has not yet seen a cure. He has found that it gives relief to some extent in aneurysm of the aorta, and has seen most gratifying results from its use in conjunction with compound valerianate pills in hysteric conditions.

62—66. **Summer Diarrhea in Infants.**—This is a symposium on the proper treatment of summer diarrhea in infants. Dr. A. Jacobi, after noticing the matter of dress, which should be light and easy, the nature of food, etc., as prophylactics, remarks that more infants get sick from overfeeding than from underfeeding. The eliminating organs are overtaxed and fermentation and putrefaction of the retained matter takes the place of digestion, so that gastric and intestinal disorders result. Summer diarrhea is not a pathologic entity, but covers all forms of excessive diarrheal discharge, from acute catarrh to follicular enteritis and streptococcic or biliary gastro-enteritis. The main symptoms are excessive discharge of mucous, serous, and fetid matter with desiccation of the tissues and general anemia, leading to insufficient nutrition and thromboses and absorption of toxins. When any of the above disorders are complicated with gastric disturbances, vomiting results and the stomach should be emptied. Gastric irrigation in the young is easy and should be done with salt water, 7 to 1000, in a funnel or fountain syringe which, as it is raised or lowered., introduces and siphons out the stomach contents. The temperature should be according to the body temperature, low when it is high and higher when it is low. The intestines should be emptied speedily by purgatives and enemas, the latter under the same general rules as stomach irrigation. The purgative may be castor-oil or calomel in small doses every hour. Food should be withheld in the beginning and no milk permitted, as under these conditions it feeds bacteria. The first diet should be simple strained barley, toast or ice water, and if the discharge ceases to be thin and malodorous, white of eggs thoroughly beaten and mixed with barley or ice-water may be given. In most cases the stomach and bowel contents are hyperacid and need neutralization. For this purpose he prefers carbonate or phosphate of calcium, as not being purgative, .5 to 1 grain every one to three hours. Bismuth subnitrate or subgallate should be given every two hours. In case general collapse or thorough exhaustion exists, stimulation with hot rectal injections of water with 1 to 5 per cent. whisky are required. Pain may be relieved by warm fomentations over the abdomen. Opium, after the bowels are thoroughly emptied, has its value, and he would give to a baby of 6 months as much as 4 to 10 drops of paregoric every two, three or four hours. Intestinal disinfectants may be used, such as calomel, bismuth, creosote, etc. After the urgent symptoms of the disease have passed, if there is exhaustion and want of appetite, he gives strychnin in doses of 1/60 grain daily, and orexin tannate 1 to 3 or four grains several times a day, some time before meals. Fresh country air and plenty of it is almost essential.

Dr. Griffith's views in the main coincide with Dr. Jacobi's. He finds that after the toxic substances have been removed, and only the catarrhal condition of the intestines remains, and diarrhea still continues, nothing is better than bismuth, 4 to 5 grains every two or three hours, even in very young infants. He believes opium often essential after the early stages, but he knows of nothing requiring more judgment than the decision whether or not to give opium. Many cases of severe summer diarrhea appear to be due to heat exhaustion, and he thinks that the coolest of clothing, cool baths, sending children to the parks or on the water the best mode of treatment in many cases. In enterocolitis, bismuth in full doses is probably one of the best remedies. Starch water enemas given slowly, and sometimes astringent enemas, are of use. Change of air and diet are of great importance. Cholera infantum is not so common in his experience, and the profuse exhausting discharge from the bowels must be met at once with opium. Pseudomeningitis depending on diarrheal disease is frequently seen, and there is sometimes a curious condition with apparently a paralytic condition of the vasomotor and probably pneumogastric systems without simulation of meningitis. In such a case the child breathes constantly with great rapidity, shows flushings in parts of the body, has rapid, feeble pulse, and may die at once without any apparent cause. This is undoubtedly a toxemic state, and while not neglecting the condition of the bowels, the chief efforts must be directed to the nervous system. Strychnin in full doses, nitroglycerin, digitalis and atropin will aid most.

Dr. Holt's article dwells especially on gastric and intestinal irrigation, and describes the method, also noticing the drug treatment. The preventive treatment is the most important and this should embrace: 1. A proper application of the well-established rules regarding infant feeding; for it is chiefly infants who have previously suffered from digestive and nutritive disturbances arising from a violation of these rules who furnish us with our severe and most of our fatal cases. 2. Careful inspection of milk in cities, and the exclusion of that the temperature of which when received is 60 F. or above; and closer supervision of those who sell milk than is now employed. 3. The adoption of means by which the poor in cities may be furnished during the summer with milk sterilized under competent supervision, either free or at a nominal cost. 4. The general employment of Pasteurized or sterilized milk as an infant food during summer; Pasteurized, among the better classes, where the procedure can be more intelligently done and ice is abundant; but sterilized, among the poor and in tenements, or wherever no ice is to be had. 5. The avoidance of all solid food during the summer in children who are under 18 months old. 6. The prompt and radical treatment of all the milder forms of indigestion and diarrhea during the hot season.

He says: "In our management of infants suffering from intestinal disorders, the great importance of the adoption of energetic measures at the outset can not be too strongly emphasized. Doing the proper thing in the first twelve hours of an attack is vastly more valuable than correct treatment during the whole of the succeeding week."

Dr. Fischer's paper reviews at length the etiologic factors, which are outlined as follows: 1. Food, improper quantity and quality of the same, be it breast, or hand-feeding. It is a well-known fact, cited by Jacobi among others, that breast milk can also cause this disease. 2. The most frequent cause is certainly improper bottle-feeding, wherein food unsuited to the infant's digestive abilities is continued, in spite of Nature's effort to warn us, as frequently manifested by either vomiting or diarrhea, or both. 3. Milk from mothers suffering with tuberculosis or syphilis. Pregnant women, menstruating and all anemic women, secrete such poor milk that gastroenteric derangements are exceedingly common. 4. The influence of the weather on digestion, especially the extreme heat of summer. 5. Improper disinfection of the nipples after feeding, and consequent decomposition and formation of micro-organisms, causing infection; all unsanitary conditions deleterious to the healthy child.

He notices the importance of stomach washing and advises the use of calomel or castor-oil to clear the bowels, and follows it with bismuth and intestinal antiseptics and astringents. In some forms of collapse he would give hypodermics of 10 to 20 drops of whisky. Rectal and colon flushing are mentioned and methods described. As regards feeding, milk should be discontinued in all forms, for at least a week, unless the child is breast-fed, and in the latter case for at least one-half or one day. He gives directions for making rice, barley, farina, sago and cornstarch water with a tablespoonful of either to a pint of water boiled for a short time and strained, and enough boiled water added to keep the amount up to a pint, and he also gives directions for making a flour ball. Cool bathing and cold applications to the head are also valuable in reducing temperature and toning up the nervous system. He is opposed to antipyretic drugs and prefers hydropathic measures.

Dr. Graham's article follows along the same general lines as the others, adding only a few more details.

67. **A Study of Rabies.**—After noting and describing the causes and symptoms of rabies and its treatment, Greswell gives an account of a recent outbreak in Colorado, which came under his own observation. He believes that man is one of the animals least susceptible to the virus of rabies, and that cauterization of the wound within twenty-four hours of its reception by fuming nitric acid is a preventive of such infection.

69. **Tracheitis and Laryngitis.**—Love reports a case of a child 3 years old, who died practically from suffocation without any exudate or persisting edema in the larynx or trachea, which parts were only reddened. The infection, as determined by bacteriologic examination, was by the staphylococcus pyogenes aureus. There must have been present some edema existing ante-mortem that was not found visible after death. Symptoms were simply those of spasmodic croup.

70. **Rheumatism.**—The theory of rheumatism here advanced is that there is some disturbance in the condition of the white blood-corpuscles, and that any medicine which has power to decrease these corpuscles relieves the disease.

74. **Urine in Diagnosis and Prognosis.**—Hill's paper goes over the subject of the urinary symptoms in various diseases: specific infection, circulatory disorders, respiratory diseases, gastro-intestinal, hepatic, and pancreatic lesions, osseous, articular and constitutional disorders, nervous diseases, skin infections, purgative disorders and poisoning.

75. See title 109.

76. See abstract in JOURNAL, August 12, p. 414.

81. **Clinical Notes.**—Royster considers labial chancre, compound fracture of the lower end of the femur, with rupture of the quadriceps extensor femoris, and an unrecognized rupture of the uterus.

91. **Hernia.**—Hollis' paper gives full description of the method of radical operation for hernia devised and followed by Dr. A. H. Ferguson. The description of the operation in detail was printed in the JOURNAL of July 1, pp. 6-14.

92. See JOURNAL, ¶ 81, p. 536.

93. See abstract in JOURNAL, June 3, p. 1254.

95. **Full Bath in Scarlatina.**—This paper points out what the author considers a superlative treatment in scarlatina where there was high temperature in the early part of the disease, severe nervous symptoms, or where one or both are present. The method is simple and consists in putting the child in water at 90 F., sufficient to cover the body and extremities. A large wash boiler or tub will generally suffice, and has generally been used in his cases. The child should be constantly rubbed while in the water, so as to change the blood in the skin as rapidly as possible. The time necessary to remain in the bath is about eight minutes. Dry quickly and put to bed, not taking time to put on a night gown or other clothing. Repeat the bath whenever the temperature gets to 103 or above, or, if the attendant is not able to take temperature, whenever the child becomes restless. Hanson reports two cases. He sums up its effects as follows: "1. It reduces temperature, which is probably the most important part of its action. 2. It favors elimination, yet its effects are so quickly apparent that this feature can be beneficial only in a minor degree. 3. It stimulates the circulation and strengthens the heart's action, thereby relieving the capillary stasis in skin more particularly, but probably in internal organs as well; this change can be most beautifully seen by observing the relief to the congested conjunctiva noticeable in those cases where skin is dark and capillary circulation sluggish, often stupor or unconsciousness present. 4. It inhibits the action of the toxins in some manner upon the circulatory, respiratory, and reflex nerve-centers. By repeating the bath as indicated until nature comes to the rescue, nerve exhaustion can be minimized and convalescence hastened. While patient is in bath, by constant friction to the skin we constantly change the blood in the skin, also the water in contact with the skin, and thereby bring almost in contact a large part of the blood in the body and the water in which patient is submerged. I believe that this contact of blood containing the germs inhibits their activity; thereby limiting the amount of toxins they produce, and minimizing the deleterious influence upon the economy. Possibly some of the toxic elements may be dissolved out of the skin and washed away."

96.—**Reflex Nervous Disorder in Children.**—Kinsman calls attention to the lack of inhibition in children as producing disorders special to their age; more particularly the reflex disorders, in which spinal and splanchnic nerves form the arc.

97. See abstract in JOURNAL, June 24, ¶ 63, p. 1435.

99. **Chronic Suppurative Otitis Media.**—Somers' paper, here credited with being an abstract, is instead the paper he presented at the recent meeting of the ASSOCIATION, in the Section on Laryngology and Otology.

100.—See JOURNAL, August 26, ¶ 154, p. 539.

101. **Succedaneum to Digitalis.**—Dalton, in this article, presented before the Section on Materia Medica, Pharmacy and Therapeutics, at the recent meeting of the ASSOCIATION, calls attention to the value of strophanthus as a substitute for digitalis. In many cases they are identical in their physiologic action as cardiac tonics, but strophanthus materially diminishes arterial ischemia and causes a faster flow of blood in the veins. It does not give greater work to the heart by contraction of arteries, and is entirely devoid of cumulative action. Digitalis has an unfavorable effect on nutrition of the heart muscle by excessive arterial tension, which is not the case with the other agent.

103. **Passiflora Incarnata.**—Fisher points out that the belief that the root is poisonous is a mistaken one, and that the whole plant is generally employed. The dose is from 10 drops to 2 drams, repeated as required. He refers to the researches in the physiologic action of passiflora, especially that of Dr. Isaac Ott of Philadelphia.

104. **Diphtheria Antitoxin.**—Morgan reports his experience in the treatment of diphtheria by antitoxin. He has used it 125 times and finds it a valuable remedy, seeing beneficial results follow its use in the third and fourth day of the disease.

105. **The Anthemion.**—The author of this article sees a sort of resemblance between certain convolutional arrangements in the brain and an ornament used in Greek temples, the anthemion. He asks whether the ancient Egyptians, Greeks and Assyrians who used this as a sepulchral device could have known of the analogous appearance in the brain of man and cattle, and answers, no. The connection, therefore, is a fanciful one, and we notice the paper here to explain its title.

107. **Gunshot Wounds of the Chest.**—Greenleaf reports seventeen cases of gunshot wounds of the thorax, in the Spanish-American War, and calls attention to the fact that while the modern projectile in this instance is in a measure comparatively humane, we have a sufficient percentage of unfavorable results to modify the claim. He gives suggestions as to the necessary methods of treating these cases, avoiding sepsis and infection of the lungs.

109. See title 75.

111. **Pneumonia and Antipneumonic Serum.**—Fanoni reports six cases of pneumonia treated with Pane's serum, generally given morning and evening while the fever exceeds 104 F., all other medication being suspended. He thinks it a safe and reliable remedy in the treatment of pneumonia. The dose given is from a minimum of 10 or 20 c.c. to a maximum of 120 c.c. He concludes: 1. Pane's antipneumonic serum is the rational remedy in pneumonia. 2. Injections with this serum are not painful. 3. Serum over five months old is no longer active and produces no results. 4. It will not do harm, even if given in doses of 100 to 150 c. c. in twenty-four hours. 5. In all these cases it has shown wonderful efficacy. 6. In any lobar pneumonia, especially if the prognosis is grave, it is the duty of the physician to use this serum, and if he fails to do so there is no excuse for such an act, except ignorance of the work that has been done in the field of the serumtheraphy of pneumonia.

113. **Excision of Superior Cervical Ganglion for Glaucoma.**—Ball reports a case which he thinks is the first in this country, of excision of the superior cervical ganglion in glaucoma. The result was immediate relief of pain for which alone he thinks the operation was justified.

115. **Heart Disease.**—Janeway notices the various phenomena of heart disease, among them the spontaneous disappearance or outgrowing by the patient of mitral insufficiency. He also notices the disappearance of the murmur of this condition in Graves' disease, the two conditions apparently being sometimes antagonistic. In his experience in private practice recovery is the rule in Graves' disease. Mitral stenosis is a disorder

more often overlooked, and he has observed it in a number of cases occurring after violent exercise in high altitudes. He thinks that in about one-third of the cases one can make a probable diagnosis by listening at the back of the chest below the angle of the scapula, where a murmur is heard, though not so marked as in front. He also calls attention to the substitution of the mitral systolic murmur for the presystolic as the heart compensation is markedly disturbed. Ulcerative or infectious endocarditis is another condition of which he speaks at some length, and he points out the difficulties of diagnosis. The most difficult of the acute cases to recognize are those where there is no heart murmur and where the lesion is on the right side and the secondary effects are more particularly in the lungs. In the former cases, by paying attention to the petechiæ, especially if combined with irregular nervous phenomena, we may be able to make a correct diagnosis. In the latter the difficulty is in determining which is primary, the lung or the heart trouble.

116. **Gymnastic Treatment of Lateral Spinal Curvature.**—Truslow gives the results of experience with this method in the New York Hospital for Ruptured and Crippled, during the last year and a half. He concludes as follows: Varying conditions among curvatures do not prevent efficient work in groups of fifteen to twenty-five, but a gradation according to age and ability to work is necessary when many patients are treated. The class method ensures the treatment of many more patients than would be possible by individual supervision of exercise. The Swedish educational gymnastics is used because well adapted for three objects: 1, to isolate activity in groups of muscles; 2, the immediate and effective correction of faulty positions; and 3, the development of intelligent and purposeful co-operation of the patient. Nearly all of those who faithfully pursue the treatment show marked improvement.

118. **Correction of Spinal Deformity in Pott's Paraplegia.**—Goldthwait reports 9 cases, 3 in children and 6 in adults, of Pott's disease treated by correction of the spinal deformity by plaster-of-paris jackets, etc. In every case the correction of the spinal deformity has been followed by a very rapid relief from the paralysis, though in some of the cases inability to hold the spine in the correct position, or to manage the after-treatment, prevented this relief from being permanent. In others the results have been very good.

119. **A Hospital Clearing-House.**—Blake, suggests a central bureau where examination of applicants for hospital treatment can be made with better care; and it will prevent the class of hospital "rounders" from imposing on the charities.

120. **Volunteer Aid Work in Foreign Territory.**—The work of the Massachusetts Volunteer Aid Commission, during the Spanish War, is remarked on by Brackett, with some general comments on the subject. He thinks that, viewed from the experience of last summer, in order that this work should be carried on successfully, it is necessary that: 1. It should be directed toward supplying such needs as have resulted from the confusion and hurry in the initiating of a large campaign. 2. It must be carried on with deference to the judgment of the regular officers in the command, and should be particularly directed to supply the needs which have been found lacking, and which they better than any others are in a position to appreciate. 3. The work must be accomplished without call on the regular service for aid, either in transportation or distribution; that is, it must be a stream of supply from an independent source, and one whose presence is felt only by the relief it brings.

122. **Case Treated With Yellow Fever Serum.**—Doty briefly reports the case of Mr. Lackey, who was received at the New York Quarantine suffering from a well-marked case of yellow fever, and which was successfully treated by serum prepared under the direction of the Health Department of New York. While most cases brought to northern climates in this condition succumb, this patient rapidly improved under the treatment and made a good recovery.

123. **Bright's Disease.**—The article by Mills is very lengthy and almost monographic, covering the whole subject of Bright's disease.

124. **Mucocele of Maxillary Sinus.**—Scheppegrell points out that the conditions that have been described as hydrops and mucocele of the antrum were in a great majority of cases due to cysts, and this is true also in many cases of empyema; that cysts may be present in the antrum for an indefinite period and their diagnosis is not always simple. They have sometimes been mistaken for malignant tumor. Their prognosis is better than in case of chronic empyema. He reports a case in which all the characteristic features ascribed to the old cases of mucocele were present.

125. **Circumcision.**—Miller calls attention to the bad results of the performance of ritual circumcision by an unqualified layman, and protests against its being thus performed. The lack of aseptic precaution and the danger of inoculation of disease are pointed out.

126. **Hernia of Vermiform Appendix.**—Hill reports two cases of hernia including the vermiform appendix, and discusses the statistics of the condition by various authors, especially in Italy. He concludes that the vermiform appendix is found in about 1.5 per cent. of hernia, and that in not quite 3 per cent. of these cases the appendix is found on the left side. It is most frequent in children. He has been unable to find the report of a case in which the appendix was the sole occupant of the left femoral sac or an umbilical or ventral hernia.

128. See abstract in JOURNAL, May 20, p. 1117.

130. Ibid, June 10, p. 1316.

131. Ibid, April 29, p. 937.

132. **Climatology of Nudity.**—After discussing the physics of light, and its probable effect on the human subject, Duffield calls attention to the fact that the present state of the human skin is one of degeneration from overcovering, and thus one of the most important organs of the body has its functions more or less perverted and reduced, yet seldom is there any call for developing the skin. In fact, the tendency is toward substitutions which supplant its functions.

133. **X-Rays in Stomach Diagnosis.**—Metcalf calls attention to the value of the X-ray in determining points essential in the diagnosis of diseases of the stomach. He uses for this purpose what he calls his bismuth emulsion, which is nontoxic, non-irritating, and can be made antiseptic. The best work is done with the fluoroscope, and he considers the mica-plate static current the best, most practical, and safest means for exciting the Crooke's tube, inasmuch as the power of penetration is greater, the light is steadier, and there is no danger of X-ray burns.

134. **Some Uses of Pilocarpin.**—Harnsberger notices the value of pilocarpin in several conditions not mentioned in this connection in the latest text-books, among them orchitis; cholelithiasis, where it brings on relaxation of the system and relieves tension in the affected parts; in tonic spasms of the diaphragm and certain cases of hiccough when firm pressure on the base of the tongue fails to give relief; and he would suggest its use in that rare and remarkable disease, arthrogryposis, which consists of persistent and refractory tonic spasms and contractures of one or more of the extremities. He also thinks it might be advantageously employed in connection with other remedies in certain cases of stricture and obstruction of the intestines, and in tetanus.

135. **Nasopharyngeal Disease.**—Lenox Browne calls attention to a fact not generally accepted, but which he thinks is reliable, that the wider the distance between the soft palate and pharynx, the more surely may one expect to have postnasal trouble. He holds that in a very large proportion of cases called atrophic rhinitis, it is a misnomer to apply the term atrophy to a structure that has never been satisfactorily developed. Atrophic rhinitis, he believes, is associated with an undue patency of the nasal orifice, nasal vestibule, nasal fossæ, and of the nasopharyngeal vault.

FOREIGN.

Lancet, August 12.

Arrest of Pulmonary Tuberculosis. J. KINGSTON FOWLER.—This author refers to a former work of his on the arrest of pulmonary tuberculosis, in which he reports obsolete tubercle as found in about 9 per cent. of 1943 autopsies. Others have found much larger percentages, but he does not attempt to explain the discrepancy. The process of arrest is important. Three varieties may be recognized: Pigmented tubercle that has undergone fibrosis containing small caseous or caseous-calcareous nodules. This is the most common form of the arrested

tuberculosis, and fortunately the one least likely to subsequently cause reinfection. 2. A caseous mass of considerable size, surrounded by a fibrous capsule. This is a condition fraught with great possibilities of danger, and he reports a case in which a lesion had existed for forty years, when the capsules being destroyed the contents were discharged into the bronchus and the patient died of acute tuberculosis in twenty-eight days. The third form of arrest may take place after the formation of a cavity. This is not so favorable as the first described, but is still compatible with long life. He thinks, however, that in these cases the patients generally die sooner or later of some pulmonary trouble. He rather protests against the general favor with which the open-air treatment is being received, not that he does not appreciate its value, but he thinks that people do not realize the long period of treatment it requires. The effect of climate is to a certain extent becoming underestimated. He recognizes the advantages of sanatoria as giving better chances of control in treatment, and he calls attention particularly to the gain in weight, which may be exaggerated as to its importance if the patient is ingesting a large amount of food. He also insists on the importance of taking temperature and noticing the difference between rectal and oral temperatures. The question of exercise will be largely determined by the presence or absence of pyrexia, hence the importance of temperature being taken.

The Prevention of Syphilis. FRANCIS H. WELCH.—Dr. Welch reviews the subject of syphilis, especially in the army. He thinks that the right future course to adopt in its prevention lies not "in any one isolated line of action, but in bringing to bear on the disease and its diffusing agency all the powers which our present civilization places at our disposal; and these are: *a*, normal and religious advance—to strengthen the higher elements of our nature; *b*, proper housing of the poorer classes—to render possible growth of modesty and chastity, and rational healthy amusements of mind and body away from our crowded thoroughfares—to curtail the present fostering influences of precocity and animalism: *c*, social action—to facilitate marriage for those not having the gift of continence, to remove the possible resort to selling the body for prostitution as a means of livelihood, and to curtail the twin contributing vice—intemperance; *d*, municipal action—to prevent solicitation in the streets and public gathering places and so remove the present temptation to the youths of both sexes, to eliminate agencies and localities for the pursuit of vice, and to make in all ways prostitution difficult; and *e*, hygienic rules—to necessitate from the votaries of prostitution proof (in the shape of a periodic certificate satisfactory to a magistrate) of physical purity as a guarantee that in their illegitimate practice they are not disseminators of disease as well as vice, to make sufficient and proper hospital accommodation for those not in a position to obtain adequate private treatment, and to furnish the means for compulsory segregation when necessary."

Note on Twelve Cases of Epileptic Insanity Treated by Means of Bromid of Strontium. J. G. SMITH.—This author concludes his article by saying: "It would seem, therefore, that whilst bromid of strontium is in some cases apparently of greater value than bromid of potassium in controlling epileptic seizures, yet on account of the more rapid action of the latter and its more lasting effect, the smaller dose required and lastly, its cheapness, bromid of potassium must be regarded as the more generally useful drug in the treatment of epilepsy."

Glasgow Medical Journal, August.

Three Years' Inductions of Premature Labor for Contracted Pelvis in the Glasgow Maternity Hospital. MALCOLM BLACK.—This article gives the tabulated results of the experience of the Glasgow Maternity Hospital in the matter of inductions of premature labor for contracted pelvis during the three years of hospital service of the author, and describes the conditions in which this method is employed, viz., when the true conjugate is under three inches or between three and four, and still dangerous for the mother. The method of inducing the labor is Krause's, viz., to insert an elastic bougie in the uterus between the membranes and the uterine wall under antiseptic precautions. When labor is not produced, Barnes' bags or, ultimately, De Ribes' bags may be required. The total number of cases is fifty; there were two deaths of the mothers; all the rest were dismissed well; 5 labors were completed by craniotomy; 15 children were still-born; 10 were born alive, but died shortly; and 20 were saved. The tables are analyzed and many of the cases briefly detailed.

Journal of Laryngology, Rhinology and Otology (London), August.

Remarks on Treatment of Deflection of the Nasal Septum. DUNDAS GRANT.—The author notices the recent discussion on "Treatment of Nasal Stenosis Due to Deflective Septa," in the New York Academy of Medicine, and describes the various methods there mentioned (see JOURNAL, June 17, ¶44-49, p. 1381), suggesting that more attention should be paid to the result of these operations than has hitherto been given by the rhinologists. As regards the formation of perforations, he thinks they are not a matter of indifference, they may cause little inconvenience if large and situated well forward, while if small they may produce a whistling sound during respiration, and discomfort is apt to be caused by the accumulation in the perforation of mucus or muco-pus.

Semaine Medicale (Paris), August 9.

Calculus of Ureter or of Appendix. TUFFIER.—A sound was inserted in the ureter during a nephrotomy, with a silver wire inside, and radiographs taken showing the course of the ureter, and attention called to the fact that it passes through McBurney's point, although at a different level from the appendix. A calculus in the ureter and a calculus in the appendix may thus cause deceptively similar symptoms, and it is in the line of the diagnosis of appendicitis that we are still deficient. An important means of differentiation from urinary lithiasis is afforded by study of the urine. A case in which a calculus in the ureter was diagnosed and found as expected is described in detail, the only certain means of differentiation being the presence of red corpuscles, a few leucocytes and epithelial cells in the apparently normal urine on microscopic examination. This microscopic hematuria, he reiterates, is evidence of urinary trouble; it is usually most apparent after certain movements or efforts, and persists. The urine in appendicitis, on the other hand, is usually decreased in amount; the salts and coloring matters may increase to simulate hematuria, but there is no true hematuria.

Berliner Klinische Wochenschrift, July 31.

Differential Diagnosis of Appendicitis. R. MÜHSAM.—"It is extremely important to examine closely into the anamnesis of cases suggesting appendicitis, and enquire especially in regard to pains in the stomach region." Mühsam describes several cases in which differentiation was difficult or impossible: perforation of a tumor in the duodenum in an adult; a case of intestinal invagination in a boy of 5, and one of perforation of typhus ulcerations. In four cases operated on, peritonitis consecutive to perforation of a gastric ulcer with abscess formation in the ileocecal region, was discovered in two cases. In another, pain from carcinomatous stenosis of the sigmoid flexure was felt in the ileocecal region. Abscesses in a fourth case were caused by the migrations of a pin in the tissues.

Renal Insufficiency Tested by the Freezing Point of the Blood. P. RICHTER.—Koranyi's statements that the amount of urea and uric acid retained in the blood can be determined by establishing its freezing point, have been confirmed by Richter's experimental research. The freezing point of normal blood is 0.56 to 0.58 degrees below that of distilled water. If both kidneys are removed the freezing point drops to 0.646. Small doses of cantharidin lower it to 0.62; larger to 0.70. The products retained, which induce this change, can not be the salts and must be the products of the destruction of the albumin. The question whether a diseased kidney can be removed is therefore capable of elucidation by determining the freezing point of the blood, which Senator calls an epoch-making discovery.

Centralblatt f. Chirurgie (Leipsic), August 5 and 12.

Influence of Incising the Parenchyma on Inflammatory Processes in the Kidneys. ISRAEL.—This intervention has proved particularly beneficial in cases of suppression of urine and a group of renal colics and hemorrhages which are usually classed as nephralgias. One case is described at length: ascending pyelitis with surgical kidney and anuria in a patient whose right kidney had been removed nearly a year before for tuberculosis. The anuria was the result of the tension of the organ enclosed in its solid capsule and obliged to assume the functions of the missing kidney. This pressure had increased, owing to

some slight inflammation, until the capillaries had become compressed. Every factor that can contribute to an increase of pressure in the kidney, torsion of the vessel stems, renal tumors, etc., induces inflammation and congestive swelling of the organ, which is usually manifested by nervous phenomena. Slitting the parenchyma removes this pressure and cures the nervous troubles. Cases that have been operated on for supposed calculi, tuberculosis, etc., in which nothing of the kind was found, were cured by the intervention. Israel also states that he has been investigating preparations from these cases anew, and in every case finds evidence of some degree of inflammation. It is important to further bear in mind that with the kidney, even very slight processes may produce colics. The best results have been attained in his experience by not suturing the kidney at once, but allowing it to granulate.

New Invagination Method of Lengthwise Intestinal Anastomosis. D. MORISANI.—This method avoids the use of any button and is distinguished by the fact that the sutures and anastomosed portions do not come in direct contact with the contents of the intestine. The proximal end is inserted in the distal end, after a strip of the mucous membrane of the latter, 4 to 6 mm. in width, has been removed from around the inside close to the end. The proximal end is invaginated to a depth of several centimeters, and is held with a few stitches taken through the edge of the distal stump and the corresponding portion of the invaginated stump, but not allowing the needle to enter the mucous membrane of the latter. The suture is then carried entirely around the intestine, the stitches slanting a little, and fastening the serosa of the proximal to the raw surface of the distal end, with the mucosa of the former intact. Sections of the intestine of dogs thus operated on show that the cohesion between the stumps is perfect and watertight in tyenty-four hours, and that the inner stump shrinks in a few months nearly to the level of the suture. Clinical experience has confirmed the harmlessness and value of the method.

Centralblatt f. Innere Medicin (Leipsic), No. 30.

New Kind of Elementary Granules in Human Blood, Sputa and Tissues.—L. GRÜNWALD.—In this preliminary communication the statement is made that a large number of cells which have been supposed to contain merely homogeneous protoplasm, are in fact filled with granules which the author calls hypeosinophilous granules. They are stained with eosin, but decolored again by acids or alkalies, and appear fuchsin red in Ehrlich's triacid stain, contrary to the usual eosinophilous granules, which stain orange. The granules are encountered in the round cells of the sputa, seropurulent effusions in the pleura or pericardium, pus and inflammatory neoplasms, also in the blood in the mononuclear or polynuclear leucocytes.

Dermatologisches Centralblatt (Berlin), August.

Hysteric Cutaneous Affections. C. RASCH.—Thirty cases of gangrenous ulceration of the skin in hysteric subjects have been reported. Almost all were young women and the affection almost invariably appeared on the front of the body, most frequently on the left arm, and lasted months and years. Rasch describes another typical observation of multiple bullous and gangrenous ulcerations on a housemaid, 18 years of age, with unmistakable evidences of hysteria and family history of mental disturbances. He insists on the term: hysteric cutaneous affections, as even if it does not proceed exclusively from vasomotor disturbances, and there may have been primarily self-inflicted injuries, yet the impulse to these acts proceeds from the mental affection, the hysteria, in which the brain is always abnormal. There is usually a history of sluggish healing of wounds from childhood up. The only treatment is purely psychic and is best carried out with complete isolation in a hospital service. The choice of local applications is immaterial, although powerful agents should be avoided on account of the low vitality of the tissues. It is best to refrain from paying much attention to the lesions, and merely seek to win the confidence of the patients to enhance the effect of suggestion. The prognosis depends on the prognosis of the hysteria. While the lesions are merely transient in some cases, in others they are so persistent and imposing, and accompanied by such pronounced mental symptoms, such as suicide in Doutrelepont's case, that hospital treatment is absolutely necessary.

Deutsche Medicinische Wochenschrift (Berlin), August 19.

Wound of the Left Ventricle Cured by Suturing.—PAGENSTECHER.—The rarity of perforating wounds of the heart ventricles, requiring intervention, should induce the publication of observations to familiarize the general surgeon with the simple technic. Ten such observations have been published, including the subject of this communication. All the patients seemed doomed to speedy death, but six were cured, an encouraging result compared with Fischer's extensive statistics, which show that only 10 per cent. spontaneously recover, and Brentano's more limited number with 20 per cent. The indications were excessive hemorrhage in 5, with 2 recoveries; tamponning the heart and pericarditis in 4, with 3 recoveries, and suppurative pericarditis in 1, with recovery. The heart was sutured in 6 cases—in 4 the left and in 2 the right ventricle—with three recoveries. In the 7 cases of stab-wound, 2 were so slight that no suture was required, and in another the coronaria had also been injured, and death ensued, as must probably always occur when a main branch of the coronaria has been opened. In the observation reported, the young man—17 years old—was brought to the hospital immediately after the stabbing, in extreme collapse; death seemed imminent; no hemorrhage from the external wound, but indications of hemothorax; radial pulse imperceptible. The area of dulness had extended over the entire left half of the chest by the sixteenth hour, and intervention was decided on. The pulse was then 120, small and irregular. Ether was used and an incision along the fifth rib, with resection of 6 cm. After slightly enlarging the wound in the pleura and pericardium, the wound in the side wall of the left ventricle became visible, about 3 cm. above the apex, 3.5 cm. long and slanting from the rear downward and forward, the edges sharp and scarcely gaping, but a small bright-red stream trickling continuously from it. The wound in the pericardium was at a higher level. There was scarcely any blood in the pericardium. Three deep stitches and one superficial were taken with a Hagedorn needle and celluloid thread in the ventricle, not including the endocardium. The bleeding did not interfere with the suture, but the stitch in the upper rear portion of the wound was only possible during the forward movement of the heart. As soon as this stitch was successfully taken, there was no further difficulty, and the flow of blood ceased as soon as the threads were tied, the ends left hanging out for drainage. The action of the heart did not seem to be at all affected by the manipulations. The opening in the pleura was then enlarged, when an enormous mass of dark blood and clots and finally clear red blood poured out, and the entire thoracic cavity was stuffed with alternate sterile and iodoform gauze, which finally arrested the hemorrhage as the lung retracted. The wound in the pericardium was closed with catgut. All hemorrhage had been definitely arrested; asepsis was maintained, although a pneumothorax with a moderate, non-purulent effusion continued for some time. Temperature was never above 38.5 C. In six weeks the patient was employed about the house and garden. A small fistula persisted until the fourteenth week, when normal conditions in the thorax were completely restored, and the health has since been robust, now ten months since the trauma. Death is seldom immediate after a stab-wound in the heart, unless the co-ordinating center in the septum atriorum is involved, which at once stops the heart. Hemorrhage from a wound in the heart is less dangerous than from a wound in a large vein, other conditions equal. Less blood escapes and it only issues during systole if the wound is not large. The heart musculature may also contract and spontaneously close the hole, or a thrombus may form, favored by an oblique direction of the passage, and ragged edges, which explains the natural healing of wounds from small-calibered revolvers. The first loss of blood and the unconsciousness from the shock reduce the blood-pressure and thus contribute to these spontaneous recoveries. Pagenstecher concludes by a description of a method of opening up the heart, like Rydygier's method outlined in the JOURNAL, xxxi, p. 1534; see also vols xxxii, p. 48; xxxi, p. 1586 and 1436; xxix, p. 756 and xxviii, p. 1036.

Muenchener Medicinische Wochenschrift, August 8.

Serum Treatment With Serum from Human Convalescents. WEISBECKER.—The results of this method of serotherapy have proved so satisfactory that Weisbecker of Gedern, Oberhesse, now communicates the details of his technic (see

JOURNAL, XXXI, p. 1068). Measles scarlet fever, typhus, pneumonia and diphtheria have been aborted or remarkably attenuated by serum derived from persons convalescing from the same disease. A single injection of 10 to 15 c.c. for an adult, or 6 to 8 c.c. for a child, is usually sufficient, repeating the injection if a relapse occurs. It is used the same as Behring's serum, restricting it to severe cases, and is most effective the earlier it is applied, the third day the limit in pneumonia, for instance. It is powerless against septic complications and after-affections, except in so far as its early use prevents their appearance. The serum is taken from blood obtained from a vein at the elbow, caught in a small glass jar with a metal screw cover, with a capacity of 150 to 250 c.c., three-quarters filled. It is set aside in a cool place for twenty-four to forty-eight hours, when the serum is usually separated and can be aspirated with a syringe and transferred to smaller vials, containing the amount for one injection. He has kept serum thus derived for years, without its altering, but as a few bottles have spoiled he adds a few drops of a 0.5 per cent. carbolic acid solution to each dose. The serum sometimes requires several days to separate completely; this can be hastened by squeezing the clot below, in which case the serum will be cloudy. The entire blood can be utilized by leaving it for several months to become completely macerated by the serum, shaking it from time to time, but it spoils readily and is less reliable than the clear serum. The chief point to be borne in mind is that no serum can be utilized except that from otherwise sound, normal persons, with a typical, classic case of the disease, which has not been treated with serum or medicine of any kind, and has passed into the unmistakable convalescent stage, the fever permanently banished, and not later than three to four days after the decisive fall of the temperature in measles, scarlet fever, pneumonia and diphtheria, and four to five days with typhus. There may be some fever in the first day, but the second and third must be free. The limit for whooping-cough, influenza and tetanus has not yet been definitely determined. The patient must have the appearance of a convalescent, show some appetite, although lesions in the throat or exanthemata may still linger. The amount of blood that can be withdrawn depends on the case, from 100 to 500 c.c., and no inconveniences have been observed from this venesection, 200 to 220 c.c. will provide serum for twenty to twenty-two other cases. Asepsis in every particular is vital. All medication, baths, alcoholics, must be avoided; the diet, milk, bouillon, eggs, with plenty of water, and the cure left to Nature. He gives *ut aliquid fiat*, a solution of hydrochloric acid.

St. Petersburger Medicinische Wochenschrift, July 22 and 29.

Experimental Study of the Sensibilities of the Skin. H. HILDEBRAND.—Donaldson, Goldscheider and others assert that there are certain points on the skin representing the terminals of specific nerves, which transmit the sensations of heat, cold, pressure, etc. Goldscheider's articles on the subject have recently been collected and republished with his methods of research. Hildebrand has been carefully testing them on numerous subjects, but his experience absolutely fails to confirm the isolated point theory. Testing a small region of the skin with a fine needle, it was found equally sensitive all over, either to heat, cold, pain or pressure, with no specially sensitive points, with the exception of the hair follicles, which are more sensitive to pressure.

Wiener Klinische Rundschau, August 6.

Dermoid Cysts of the Ovaries. B. NOVY.—The proportion of dermoid to other ovarian tumors varies from 2.2 to 24 per cent., according to various authors. Forty-two were noted in 411 ovariotomies at Pawlik's clinics: 22 in the right; 15 in the left, and in 5 cases, in both ovaries. One patient was a little over 10; 9 over 20; 18 over 30; 10 over 40; 3 over 50, and 1 over 62 years old. The stem was twisted in 6 cases, once to such an extent that the tumor only received nourishment from the vessels of the adherent omentum. In 7 cases the tumor required operation three months after the first indication of its existence had appeared; in 8 others, six months had elapsed; in 5 a year, and in 7 two years, but in another case the tumor had been noticed twelve years before, but caused no disturbances until the last six months before intervention. In one case the tumor had appeared at 16, and caused suspicion of pregnancy, but remained stationary during eight normal pregnancies, not requiring removal until a year and a half after it started to grow again, at 37½ years. Another woman of 53 noticed the tumor at 18. It remained stationary until the menopause, when it increased until removed three years later, when it contained fifteen liters of fluid. The longest interval was fifty-one years, the tumor first noted during the patient's fourth year, regressing three times and reappearing, never very large, until the menopause, when it attained twice the size of a man's head. Permanent and milk teeth were found together in some cases, all with enamel, "several that could have served to embellish the mouth of the bearer," also fragments of bone resembling portions of jaw and skull, etc. Hairs were found 30 cm. long; black, red and blonde hairs were sometimes found in the same cyst. Brain substance was found in 8 cases; glia tissue in 1, and tissue resembling the mucosa of the alimentary canal, air-passages, and trachea, thyroid, etc. Novy announces, as the results of his microscopic research, that the dermoid cysts of the ovaries form an independent group, distinguished histologically and genetically from the dermoid cysts of other portions of the body. Although resembling a teratoma in some respects, it is yet morphologically and genetically distinct, and might be called a cystic "rudimentary parasite of the ovary." A teratoma of the ovary does not differ from a teratoma in other parts of the body, and is due to inclusio fetus in fetu. The cystic parasite of the ovary, on the other hand, develops from the ovum still in the follicle, which is fully matured and has received the impulse to further, partially complete, segmentation. The nature and cause of this impulse are yet undetermined. These tumors do not produce metastases in the manner of malignant tumors. He concludes by asserting that "Küster's sign" has no pathognomonic significance, as he established in his numerous cases.

Grece Medicale (Syra), July.

New Exploratory-Operative Process for Abscess of the Liver. A. P. Petridis.—A number of convincing observations are described showing the inefficacy and even the dangers of the usual exploratory puncture and manipulations in a certain class of abscesses of the liver, and a new method is proposed, by which the largest portion of the surface of the liver is exposed in the most favorable region for discovering the one or more abscesses that are causing the classic symptoms. Petridis calls it horizontal polipleurodiaphragmotomy, temporary or prolonged, a simple, harmless and surprisingly effective means of reaching otherwise undiscoverable and inaccessible pus collections, and saving many cases hitherto supposed hopeless on account of the impossiblity of evacuating the contents. The first step is a horizontal incision with the thermocautery, starting at the mammary line on a level with the seventh rib, and carried toward the center of the area of hepatic dulness, to the axillary line and even beyond. The seventh, eighth and ninth or tenth ribs are then resected for a distance of 10 to 15 cm.; then a new parallel incision is made with the thermocautery on the diaphragm as far as Glisson's capsule, exposing the liver as the lips of the wound are drawn apart, and upward with a couple of wide retractors. The eye, the fingers and the needle can then be used for exploration, all under control of the eye. The abscess or abscesses are then evacuated by the Zancarol method, which he considers infinitely superior to the Lannelongue and Stromeyer-Little methods, which have survived their usefulness.

Revista Medica del Uruguay (Montevideo), June.

Sympathectomy in Glaucoma. L. DEMICHERI.—Three observations are recorded in which chronic glaucoma was treated by resection of the cervical sympathetic, as recommended by Jonnesco. In one case of almost total blindness from absolute glaucoma, mydriasis with atrophy of the iris and horny cataract in one eye, and chronic irritative glaucoma in the other, with patches of atrophy in the iris, and increased intraocular tension; V—1/50, lateral resection of the cervical sympathetic with extirpation of the superior and inferior ganglia (the middle ganglion was absent), was followed by restoration of V to 2/3; visual field and intraocular tension normal. This improvement has persisted to date, three months, accompanied by the gradual disappearance of the patches of atrophy in the iris. In another patient, 81 years old, with simple chronic glaucoma, the vision was reduced to fingers at 1 meter, right eye, and movements of the hand, left eye. The latter was restored to

2/3 in two days after resection of the left cervical sympathetic. Slight ptosis, ocular tension below normal and extreme myosis appeared at once and have persisted during the two months since.

Societies.

American Academy of Railway Surgeons.—The next meeting of the American Academy of Railway Surgeons will be held in Omaha, Neb., October 13 and 14.

International Dental Congress.—The date for this congress at Paris is Aug. 8 to 14, 1900, and "it is hoped that it will continue the traditions so happily initiated at Paris in 1889 and Chicago in 1893." Secretary-general, E. Sauvez, 17 rue de St. Petersbourg, Paris.

International Congress for Physical Education of Youth.—An international technical committee is being organized in connection with this Congress, to be held at Paris, next year. The object of the committee is to study the application of scientific data to the perfecting of the human form divine, and substitute them for the prejudices which at present have altogether too large a share in the education of children.

Congress of Electrotherapy and Radiography.—The French Society of Electrotherapy and Radiography has decided to hold in Paris an International Congress and annual exhibition of the latest appliances in this branch of medical science, to which all interested are invited. The next Congress will be held during the Exposition, and promises to be of unusual interest. The executive committee is composed of Apostoli, Boisseau du Rocher, Branley, Oudin, Mutier of Paris, and Donnier, 57 rue Nicolas Leblanc, Lille, to whom all communications can be addressed.

National Academia de Medicina of Brazil.—The Academy recently celebrated the seventeenth anniversary of its foundation by a special meeting at Rio Janeiro, notable for the remarkably fine projections of photographs, in colors, of the results of recent research by the members, especially of the symbiosis of the bacillus icteroides and a fungus, to which de Lacerda has been calling attention. (See JOURNAL, July 8, p. 100.) He showed the marked difference in growth of the bacillus with and without the fungus and the latency of the latter during the winter, while the bacillus icteroides is not affected by the cold. He also announced the new and most significant fact that this fungus is found in great numbers in houses in which yellow fever has occurred, in the paper, walls, furniture and in the dejecta of flies.

British Medical Association.

Annual Meeting, Portsmouth, Eng., August, 1899.

THE MEDICAL SERVICES OF THE ARMY AND NAVY.

(Continued from p. 548.)

ALEXANDER OGSTON, M.D., in his address in surgery, after the preliminary remarks on the demands of modern times on surgery, and the effect of Lister's discoveries and doctrines, alluded to the unsatisfactory status of the British naval and medical military services. He said in part:

A standard of work at least equal in excellence to that of the civil surgeon ought to be expected of army and navy medical officers. Senn, of Chicago, chief operating surgeon with the United States Army recently in the field, and one who has done much for surgery, points this out in the following axioms:

1. That in theory and practice military surgery is equivalent in every respect to emergency practice in civil life.

2. That the wounded soldier is entitled to the same degree of immunity against infection as persons in civil life suffering from similar injuries.

3. That all formal operations in war must be performed where the wounded can receive the full benefit of aseptic and antiseptic precautions.

4. That operative interference is indicated in all penetrating wounds of the skull.

5. That gunshot wounds of the chest should be treated under the strictest antiseptic precautions.

6. That laparotomy in penetrating gunshot wounds of the abdomen is indicated in all cases where life is threatened by hemorrhage of visceral wounds, and the general condition of the patient is such as to sustain the expectation that he will survive the immediate effects of the operation.

These are reasonable demands, many might ask more, but nothing that falls short of some such standard can be accepted as satisfactory. Statistics prove that of all wounds in battle there are 7.4 per cent. of the brain, 7.5 per cent. of the chest, and 4.7 per cent. of the abdomen, amounting to 20 per cent. of all wounds. There must, therefore, in the next great campaign, be an enormous field of usefulness to properly trained antiseptic surgeons, and a fearful waste of life if they be not there to occupy it. It scarcely, moreover, requires to be pointed out that gunshot wounds of other parts besides those of head, chest and abdomen offer a field for modern surgery that has scarcely yet been entered on. No extensive campaigns have been conducted since antiseptic surgery was fully introduced, but the smaller ones have shown the need for a class of surgeons more highly trained than hitherto to carry the best methods of antiseptics into the domain of gunshot wounds, where septicity is a danger greater and more frequent than in any other class of injuries whatsoever. And I am convinced, from a study of wounds inflicted by modern projectiles, on which it would be out of place to enter here, that in gunshot wounds of the soft parts and extremities a very much larger proportion of lives and limbs than hitherto can be saved, and another great field of modern conservative surgery opened up by the application of improved methods and principles of treatment, in the hands of those who really know how to employ them.

In all that pertains to surgical work, it will not be questioned by those aware of what is now required, that our military and naval surgeons have, in peace, virtually no training to fit them for what they may at any instant be called on to undertake in war. Who that compares the conditions under which the civil surgeon is formed with those existing in the Royal Army Medical Corps or the Navy will be so bold as to say that the latter furnish any adequate means of familiarizing their surgeons with the highly complicated and difficult procedures which they ought to be able to carry out with dexterity and success?

Dr. Ogston goes on to say that Great Britain, of all countries, should be the first to care for its naval service, and one can hardly appreciate the actual facts.

He pointed out that in the event of a naval engagement of any magnitude the wounded on board British ships of war would have to be attended to in a small dark room, unprovided with any save the rudest appliances and a few cots, where at most half a dozen men could be handled, and which is moreover, in many vessels, as much exposed as any other part of the ship to the fire of the enemy. Were such a fighting bay rendered untenable, the wounded, however great their need, could be attended to only by being lowered, slung in a vertical posture, down the narrow hatchways, where the shot is brought up from the magazines to the guns, and even these would not be available during the heat of an action. Everything on board ship that can destroy life is in the highest perfection, everything that can save it is of the rudest description and behind the age. In the case of a gunshot wound through the abdomen the only chance of recovery is laparotomy performed within twelve hours, but on board none of Her Majesty's fleet is there any possibility of performing such an operation: there are neither accommodations, instruments, nor accessories. Or were 20 per cent. of the men of one of her battleships or cruisers killed and disabled in action, the wounded among them could not, in the present state of things, receive the attention that ought to be given them.

Yet there is no reason why the constructors of the navy should not arrange under the water line, shielded from the enemy's fire by the turtle-back armor deck of the vessel, a sufficiently large, and well-lit space, fitted with all that is required for wounds, compound fractures, and operations on the main cavities of the body. In these the wounded could be lowered through hatchways made capable of transmitting

men on stretchers or litters even in the midst of an engagement, so that all emergency operations could be satisfactorily performed.

Matters are even worse on board the smaller vessels, which have no surgeon and few surgical appliances. On torpedo boat destroyers there are no materials for making splints, only a box of antiquated remedies like those supplied in the vessels of the mercantile marine, where the sailing master acts as the doctor. It would not sensibly retard the speed of such a boat to carry a surgeon—or at least several men specially and fully instructed in first aid, and really capable of efficiently affording it—and to furnish such appliances as would enable them to deal with wounds and compound fractures.

The requirements of naval warfare must always, more or less, impede the carrying on of surgical work on shipboard during naval actions. No person will impugn the principle that the efficiency of war vessels as fighting machines has first to be considered, and as much accommodation as possible allotted to their fighting armament. It is inevitable this should be the chief consideration in fitting out the navy. To keep the communicating doors of water-tight sections open during action, in order to convey the wounded to the surgeons, might cost the lives of all on board. It may also be that in naval warfare, especially in some vessels, success may occasionally best be purchased by throwing aside, for the time being, all considerations of dealing with the wounded. But the principle may be, and is being, carried too far; for it is a duty to see that, short of interfering with the perfection of the fighting machine, no suffering is left unrelieved or life needlessly sacrified, and no means neglected of bringing wounded men the earliest and best attention that can be given. No questions of economy should be allowed to prevent officers and sailors wounded in naval warfare receiving such early and effectual help as their condition so urgently demands. The cost of a couple of twelve-pounder guns would probably cover all that is required for each ship.

Criticisms without suggestions are usually better unmade; and to call attention to defects in the services, without indicating the lines of remedy, would be almost unpatriotic. I have already ventured, to some extent, to indicate how I think defects may be made good, though some of the suggestions have been more of detail than principle. It would be out of place to dwell at length on minor suggestions; but it may now be desirable to state generally the lines on which the services can be brought into harmony with the requirements of modern science, so as to ensure the wounded in war the most enlightened treatment, and for the medical officers the means and training for carrying on their work in a manner that will bear comparison with that of their civil compeers.

It would be easier to do so if we possessed universal military service, as we might then look for guidance from Continental examples. In countries where this obtains the most eminent civil surgeons are at the disposal of the authorities in time of war, and in peace hold rank in the army, receiving promotion like those actively serving. They are soldiers in reserve, and can be made use of wherever their eminence and special qualifications make them most useful in war. The idea of adopting this system among ourselves, but on voluntary lines, is no new one; although it has recently been brought prominently into notice by Lord Lansdowne's creation of the Central British Red Cross Committee. If the committee make an endeavor to attach a number of our most capable civil surgeons to the Royal Army Medical Corps, by conferring on them military rank and titles, with special privileges and emoluments, on condition that their services be at the disposal of the government in time of war, some good may be done. There are obvious difficulties, but they do not seem altogether insuperable, and, at any rate, such a plan is worthy of the attention of the War Office. But anything short of this, as for instance, the old desultory method of inviting civil practitioners to volunteer their aid when war breaks out, and so supply the defects of the service, is doomed to failure; because, though capable young graduates are thus obtainable in considerable numbers, they are not the class of experienced surgeons who are wanted, they can not replace the military or naval medical officers, and are at best but a species of superior dressers. Few, if any, of the men who would be of real value will come forward, save perhaps in the event of an impending national calamity. The system was tried in the Crimea, and has since occasionally been carried out by the National Aid Society; but I am sure those who have seen it in operation must admit that it is at least a comparative failure.

Although the arrangements of foreign services can not be directly adopted in our own, much that is instructive may be learned from the medical services of Germany, where compulsory service exists. In that empire every medical man who has served possesses a fixed military rank, even if engaged in civil practice, and is liable to be called on to serve where and when required. Those who have not served in the regular army, but are in private practice, annually receive an inquiry addressed to them by the war office as to whether they are prepared to serve their fatherland in case of war. Every German medical man who has served in the army at all is maintained for nineteen years under military orders—that is, he possesses a fixed rank, and is allotted, even in time of peace, a known military post which he would occupy if war broke out. Thus the university professors hold high military rank, corresponding with their eminent civil position and scientific attainments, and are required to give annual courses of instruction to the medical officers serving in the army or navy. Such well-known surgeons as Bergmann, Bruns, Trendelenburg, and Mikulicz have to teach these classes during the Easter holidays, so as not to interfere with the winter and summer sessions of the universities. Each professor has his fixed military rank assigned to him in case of war; most of them rank as lieutenant-generals, some as generals, and even higher, and in the event of war they act as consulting surgeons to the medical officers of the army in the field or base hospitals. They receive the same pay as the military surgeons, as do also the other surgeons who are liable to be called out in case of war; and some of the latter have places assigned them in the sanitary corps, etc., so that their skill and experience are utilized in every department of the service.

In time of peace German army surgeons have the development of their professional culture ensured by the following measures: The most promising surgeons and assistant surgeons are sent to do duty for a year at a time in the medical, surgical, and gynecologic departments of the hospitals connected with the universities, and in other large public hospitals unconnected with them. The junior and assistant surgeons are also annually sent to attend the special courses of instruction in anatomy, surgery, and operative surgery mentioned above. The senior medical officers, nearly corresponding with our surgeons-major, at least the most competent and promising of them, have to serve in rotation in the large military hospitals, in which are treated, not merely soldiers, but all kinds of ordinary patients; there they have to act as teachers and attend and take a share of the tutorial work among the pupils in the classes of the various professors; or they may be sent to do duty for a year in the general hospitals, not only in the surgical, but also in the medical and gynecologic, wards. They have also to attend, as they may be ordered, annual courses of bacteriology; or they may be furnished with funds for traveling in other countries and studying their medical and sanitation arrangements.

All surgical instruments and appliances in the German army are provided by the state, and in their navy this is likewise the case; every hospital in which the medical officers serve has its complete armamentarium provided for it, so that no unwise economy hampers the most thorough and modern practice of the healing art; the same thing is true in regard to their naval medical service.

In the Russian army and navy similar care is taken of the professional culture of the medical officers. Russia possesses 6 large and 300 small hospitals connected with the army, besides smaller lazarettos; and in some of these the equipment is far in advance of anything the services possess in this country. Thus the military hospital of St. Petersburg, wherein are treated all medical, surgical, gynecologic, ophthalmic, and other diseases, consists of five separate clinics or infirmaries, each of which is complete in itself, and possesses departments for every class of disease, and even wards for paying patients. The wards are excellent, and replete with

appliances of every kind; and there are bandage rooms, purifying rooms, operating theaters, bacteriologic departments, rooms for physical research, laboratories for teachers, and laboratories for students, all excellent and complete. Each clinic possesses 850 beds, 120 of which are for women's diseases, and 20 for children's; and about 45,000 patients are treated per annum. In these clinics the students and assistants have to work in the most thorough manner, and study every kind of case. The hospital possesses a staff of 34 professors, 70 privatim docentes and 47 assistants. Each department is furnished with an ample annual allowance for instruments and apparatus, and can apply for and obtain additional grants for anything more that is required, or for anything new and expensive. They have liberal provision of everything calculated to assist the most advanced work and investigation; X-ray rooms, photographic rooms, electric rooms, immersion lenses, centrifuges, etc., to an extent that excites the marvel and envy of British visitors. The work in the wards, such as case taking, temperature recording, and every sort of examination and study of the cases, is of the very highest character; and the operations and dressings are carried out by the surgeons and qualified assistants in a fashion that is above praise.

Russia has 3000 surgeons in her army, and any of these may, if he show ability and powers of work, apply for and be ordered to return to study in the hospitals for a period of two years. There he has to work as a regular assistant, and on proving his capacity may attain a place among the teachers of the institution; or he may be transferred to the hospital of some provincial city, and there continue to perfect himself in his profession, and further qualify himself for his duties in time of war.

The Russian naval hospitals are arranged like their army hospitals; they exist in many parts of the empire, there being five large ones at different ports, besides one or two smaller ones; they admit civil cases of all kinds; and in them the medical officers possess opportunities of training themselves in all manner of high-class professional work. In the Russian navy the medical officers who show ability can obtain permission to return for two years to the hospitals, and can there advance by merit, ten every year, to become privatim docentes, and so proceed to the position of professor. And they have the same privilege as those of the army of obtaining, after ten years' service, two years of study leave in the hospitals and schools, during which time they are granted extra pay.

The Russian state supplies its army, its navy, and their hospitals with instruments of the newest construction, embracing appliances for special diagnosis and treatment; the operation instruments, and even the boxes that contain them, are arranged so that they may be readily sterilized by heat or otherwise; and Schimmelbusch's sterilizers, and apparatus specially constructed for carrying out antiseptic and aseptic treatment under the difficulties of a campaign, are supplied with them. The drugs are prepared for the services in the form of tabloids, with the active principles accurately dosed and made up by the newest machinery. Dressings, bandages, and such like are prepared, sorted, made up, sterilized, and sent out from factories which are ideals of purity, ingenuity and care, in a way that is an example to the world.

In the French army post-graduate courses, expressly for medical officers, are conducted by professors at the different universities throughout the republic, and the cost is borne by the army medical departments, while a certain number of the medical officers of the active and reserve army are yearly ordered to attend them, extra pay being drawn by those who do so.

Dr. Ogston then suggested, in detail, a scheme of reform, which lack of space precludes printing here.

(To be continued.)

Chicago Academy of Medicine.

Regular Meeting, June 23, 1899.

(Concluded from Page 485.)

RELATION OF CHILDHOOD TO ADULT DEFECT AND DISEASE IN ITS PULMONARY AND CARDIAC ASPECTS.

DR. WILLIAM J. BUTLER—The lungs form an interesting subject to the pathologist and clinician, whether considered in childhood or adult life. But the relation of childhood to adult pulmonary defect and disease appears particularly attractive because of the much discussed predisposition to pulmonary lesions and the important bearing of the same on the life of the individual. The demonstrable congenital defects are rare, and while they form an interesting pathologic spectacle, they are clinically unimportant so far as the adult is concerned. They might be dismissed with the mention of their occurrence. Cases of an absent or remnant of lung are reported, as are likewise the more frequent cases of defective development as the result of intrauterine disease or defect producing lung compression, and as a result defective lung development, as through diaphragmatic hernia, etc. That an absent lung, however, is not incompatible with an extended existence is illustrated in the autopsy of a German soldier who died at the age of 24 years, in whom was found but one lung. However, of far more importance, could we throw any light on it, would be that subject which still beggars a scientific explanation and denomination, which the pathologist speaks of as undemonstrable qualitative lung changes, and the clinican as a predisposition, both of which, while tolerable as somewhat expressive, in reality convey little definitely.

While there are certain appearances in subjects, which experience teaches are characteristic of those that later develop pulmonary infection; that there are those who do not present the same and who later develop chronic pulmonary disease, and those that are models of these signs who never develop the same must be acknowledged. It is not our purpose to deprecate the use of these terms in speculating on the future of the child who shows them; but, however, we contend that they must be considered with caution in estimating as to future disease of adolescence, and that the same can only be consistently done when dealing with pathologic changes that permit of interpretation from physical signs. It is notable that while acute pulmonary diseases may be among the most frequent disorders of childhood, chronic affections are quite uncommon, and that pulmonary tuberculosis, so far as our clinical observation goes, is quite rare in children under 10 to 12 years of age. Some of our acute affections may, however, terminate in chronic ones that assume great importance as to the future of the child, namely, the lung and pleural thickenings presenting after a pneumonia, lobar or lobular, or the pleural thickenings following a pleurisy. These exert a decided influence on the future of the child who may succumb early in life as the result of recurring acute attacks of pneumonia and pleurisy, or from tuberculization of the foci. Bronchiectasis, however, is quite rare, at least on the post-mortem table. In those patients who survive a period of years, marked displacement of the mediastinum and heart may be observed, if the chronic inflammatory process has extended beyond the pleura to the surrounding tissues. And under such circumstances we not infrequently see varying degrees of dextrocardia in right-sided affections of the chest. There are also noted marked deformities of the chest as the result of the contracting and retracting processes. These latter, however, are not among the frequent results.

The results of such changes on the adult, so far as defect and disease are concerned, assume a great importance both in the gradual advance of the chronic process, the greater vulnerability of the organ to infections, both acute and chronic, and not the least important its effect on the right heart as the result of increased resistance offered to pulmonary circulation. This latter consequence is most beautifully illustrated in the pulmonary atelectasis resulting from pronounced thorax deformities as the result of Pott's disease or rickets. In such cases proportionate to the pulmonary compression, obstruction is occasioned in the pulmonary circulation, to overcome which the right heart must increase its propelling power, which it effects by hypertrophy, thus producing a condition similar to that found in a lesion at the mitral end of the pulmonary circulation, and presents an identical picture with the same, and is attended with similar periods of cardiac incompetency, which is so often a cause of death in subjects with greatly deformed thoraces.

In regard to the relation of childhood to adult defect and disease in its cardiac aspects, this would require classification, at least into the two divisions, congenital and acquired cardiac lesions.

The congenital lesions, according to Sindes, Rokitansky,

Orth and others, are to be considered the result of developmental defect and not of endocarditis. If we are to consider them in their relation to adolescence, we should take up those that involve the pulmonary conus, orifice and artery, with accompanying septum defect, open ductus Botalli, etc., as these are the lesions that assume the greatest practical importance, as they are far more compatible with a comparatively prolonged existence than those still rarer lesions of the tricuspid valve. The most frequent of the pulmonary lesions are narrowing of the conus, with septum defect and varying relation of the patency of the foramen ovale, or narrowing of the entire trunk of the artery with septum defect and varying relation of the foramen ovale.

The pulmonary orifice lesions offer an interesting study in those that survive, as they at times present a peculiar aspect and decided secondary changes. As a rule, they are poorly developed, may be cyanotic, and not infrequently are the subjects of pulmonary tuberculosis. The frequency of the latter in pulmonary stenosis is variously estimated by different observers. Whatever the discrepancy in statistics, it is notable that they frequently develop and die of it.

Concerning the acquired heart lesions, we have to deal not only with endocardial, but pericardial affections. Pericarditis in childhood is said by Baginsky to be probably more frequent than in adult life. An opposite position to this is maintained by Da Costa. On the other hand, Dukinson, from pathologic observations, says that it is less frequently observed in children than adults, and that the rheumatic form is almost invariably associated with endocarditis. However, its occurrence portends serious consequences for the child, as but few of them pass beyond the age of puberty.

Endocarditis, on the other hand, is not an infrequent phenomena in children, though probably not so frequent as diagnosed. Its occurrence, however, causes at once a serious outlook for the child, not only as to its immediate results, but as to his future in the way of recurring attacks of endocarditis, cardiac incompetency, etc., as a heart lesion tends to progression and not regression. As in the congenital lesion, so too in the acquired, children usually develop less satisfactorily, and proportionate to heart hypertrophy may arise chest deformities in the so-called heart humps.

It is needless to mention the enormous preponderance of acquired endocarditis on the left side of the heart over that on the right, which equally or even more so characterizes the congenital form as to the right over the left heart, although there congenital mitral stenosis has been recorded and we have seen acquired right heart endocarditis "posted."

It was previously noted that in the congenital pulmonary stenosis, pulmonary tuberculosis was a frequent cause of death; with equal prominence may be mentioned the fact that death from tuberculosis is exceedingly uncommon in mitral lesions, and that cases of pulmonary tuberculosis that develop mitral lesions may be given a favorable prognosis as to their tuberculosis, and likewise an early acquired mitral lesion protects the subject to a great extent against tubercular pulmonary development. This is dependent on the principle that has been recognized for ages, namely, that a chronic passive pulmonary congestion is unfavorable to the growth or development of tubercular processes. The acquirement of this passive congestion is assured by the development of a mitral lesion. This infrequency of pulmonary tuberculosis in mitral stenosis is contested by some, but we can not but recognize the worth of the observation of such eminent pathologists as Conrad and Kolisko, and the clinicians Bomberg, Neusser and Kovacs, all of whom held this view.

Concerning aortic lesions, their presence alone would have no bearing on pulmonary conditions other than forming a *locus minoris resistentiae* during acute pulmonary affections.

Cardiac insufficiency in aortic lesions is always a grave prognostic sign, and pulmonary congestions that so arise are usually of short duration.

The prognosis of children, as to life, who early develop heart lesions, is variable in great part with each case, as they are at all times liable to recurrent attacks of endocarditis, each one of which exerts its deleterious influence on the heart muscle and often increases the existing lesion or adds another thereto.

DENTAL ASPECTS OF CHILDHOOD IN THEIR RELATION TO ADULT DISEASE AND DEFECT.

DR. A. E. BALDWIN—In looking over this list of the different headings of "Childhood in Its Relation to Adult Disease and Defect," I was impressed with the many aspects of this question, each one of which has a bearing of very great importance, it being almost impossible to separate either one from the other. There seems to be a relationship between all of them, but I shall try to restrict myself to the topic assigned to me. The dentist, or one who makes the dental part of our anatomy a specialty, notices many of these defects more frequently than do other specialists or those engaged in general practice. We all know, from observation, that heredity plays an important part in the diseases of childhood. Heredity occupies an important part in the field of defects from a dental standpoint. When I say a dental standpoint, I do not mean to refer simply to the teeth, but to the appurtenances thereof as well. It is not necessary for me to call your attention to the many-shaped faces and the many shapes of the teeth characterizing the different nations. There are characteristics especially belonging to each. I shall only call your attention to one feature in this connection, and after having made dentistry a specialty in the last sixteen years of my practice, I consider it a very important feature, and that is the care of the milk teeth, so-called, or the first set of teeth, as to the prevention of deformities of the face. We know that the tendency of the teeth is universally to move forward or toward the front of the mouth, and if certain teeth are extracted out of time and before the time for others to come in to take their place, the space becoming smaller than necessary for the proper alignment of the teeth, as a consequence there will be produced irregularities of the teeth. The lower part of the face must be developed or expanded in a different way from most any other part of the human organism, and this is largely brought about by the pressure of the incoming teeth expanding the jaws. The teeth form in the jaws, attain a certain size, are erupted, and then remain during life. When being erupted, the teeth crowd and oftentimes appear to be leading to strong irregularities, and dentists are approached to extract these teeth adjacent to the ones coming in, so as to allow them to come in regularly. This is part of Nature's plan of developing the jaw, and I want to warn our confrères against giving away to the tendency of extracting such teeth to make room for the new teeth that are coming in, thus dwarfing the jaw and preventing its proper expansion. Our field for humanity is to do as much as we can to prevent any such irregularities from taking place, and not allow those things to be done for our patrons, for their interests and for humanity at large. By so doing we will prevent a great many abnormal and partially developed jaws.

Another point is with reference to the care of the child's teeth. It is not necessary for me to do any other than to make a suggestion which will lead you into the thought I wish to convey. You know that in childhood habits are formed, and if attention is not directed to the infantile or milk teeth how easy it is to produce a train of diseases or a suitable soil for a train of diseases which will take almost any of the forms spoken of in this list, notably nervous diseases, and diseases of the alimentary canal. What I may say has occurred to most of you a great many times, but it is to my mind of very great importance, that is the care of the molar teeth of children, not for the direct as much as for the indirect effects. The indirect effects are these: The child must not only sustain life by the food it takes, but the nutriment must also be such as to allow for expansion. It is more important to the child that it should have a good masticating apparatus than it is for the adult. Take a child whose molar teeth are not properly attended to—I am speaking now of the milk teeth—and that child will not masticate its food; consequently food will be taken into the stomach and the work which should devolve on a variety of organs is thrown on one. If the child be of a nervous organization, in many instances we will find dyspepsia developed with its consequent train of symptoms. If the habit is formed, it will probably remain during life with all its consequent irritations and troubles that develop in various lines. By preventing the habit of bolting food, or by encouraging the proper mastication of food and mixing it with saliva, we will in this way relieve the stomach and alimentary canal, and we will

greatly tend to preserve the health and prevent the adult organization from disease.

PROCTOLOGIC ASPECTS OF CHILDHOOD IN RELATION TO ADULT DISEASE AND DEFECT.

DR. JOSEPH B. BACON—It is impossible to give more than a synopsis of the vast amount of literature and to touch on some of the main faults of interest in this most important subject without making this paper too voluminous for the purpose it is intended to occupy in this general discussion.

Digestion and assimilation are two very important factors in the growth and proper development of a child; yet neither of these conditions can be normal when there is habitual constipation or impaction of feces in the rectum, the serious effects due to the absorption of fecal products on the nervous system even causing insanity, disorganizing the blood—indeed, the whole body may be deprived of normal development by this autoinfection. In fetal life the rectum is composed of a blind pouch that finally descends deep into the pelvis and becomes attached to another blind pouch inverted at the anus and forming the anal canal; the union of the blind ends of these canals, and the absorption of the membrane forming the septum, results in a permeable gut or true rectum. Normally this septum is all absorbed, but frequently it remains in part and thus forms a constriction of the rectum or a congenital stricture, resulting in chronic constipation alternating with impaction. Again, a sensitive polypus forms in the lower rectum. At the time of defecation the feces drag it down near the anus, owing to the normally relaxed submucous connective tissue. If this sensitive polypus is now compressed by hardened feces, pain is reflected back to the sacral plexus, then over the pudic to the inferior hemorrhoidal nerves to the sphincter and muscles, producing a spasmodic contraction. The peristalsis of the gut above, together with the voluntary intra-abdominal pressure, forces the feces through a spasmodically contracted anus, often producing a tear of the mucous membrane resulting in a chronic ulcer or fissure. The enormous supply of sensory nerves distributed to the anus makes even a small tear or ulcer so extremely painful when soiled by feces at the time of defecation, that the child dreads to have a stool, voluntarily avoids it, obstinate constipation results and, if neglected, impaction occurs.

I have seen chronic cases of impaction where the rectum and sigmoid were so distended that all the pelvic organs were displaced. The rectal walls had been so distended and thinned that normal contraction never occurred, and through life the bowel never became normal in muscular action, so that the patients were continually compelled to use enemas and purgatives. One young man with a history of chronic impaction of feces of the rectum and sigmoid in childhood, had had intermitting attacks requiring anesthesia and mechanical means to relieve him. I examined him, found no obstruction, but an enormously thinned and dilated rectum. I explained to him the danger of the gut rupturing if he allowed impaction to recur, and prescribed laxatives, diet, etc., but in less than a year, in spite of his care to avoid it, impaction took place and the gut ruptured, followed by fatal peritonitis. The postmortem report described the rectum and sigmoid as dilated to many times the normal size and almost a complete loss of muscle elements in the gut walls. This case could have been saved if care had been exercised in looking after it in childhood.

Chronic impaction of feces in the rectum in a female compresses all the organs of the pelvis, delays the normal development of uterus and ovaries, misplaces the bladder upward and produces vesical irritation and nervous symptoms, etc., compresses the ureters and disturbs the functions of the kidneys, produces pressure atrophy of the levator ani muscles, thins out the perineal triangle and superior and inferior fascia of the levator ani muscles, and elongates the uterosacral ligaments, weakening the supports of the pelvic organs and subjecting the patient to visceral ptosis later in life. Hemorrhoids are very rare in children and usually are symptomatically cured by removing the primary cause, such as constipation, prolapse of mucous membrane, chronic diarrhea, disordered portal circulation, etc.; but when hemorrhoids occur in children they are very apt to recur in adult age. The rectum usually contains pathogenic microbes and its mucous membrane is more frequently abraded by indigestible substances taken with the food. Hence we frequently find chronic ulcers, or a blind internal fistula the result of an abscess. This pus-forming fistula causes amyloid visceral change if neglected, and usually affects the patient's chances for health in adult life. More rare affections, such as primary tuberculosis, syphilis, gonorrhea, adenoids and multiple polypi, prolapse, procidentia and malignant disease, while very important, require too much discussion to be properly considered here. Much might also be said concerning reflex nervous symptoms that call attention to conditions remote and serious that continue through adult life.

HABITS OF CHILDHOOD IN RELATION TO ADULT DISEASES.

DR. W. X. SUDDUTH—Prenatal, intrauterine and infantile diseases expend themselves in childhood or adolescence, seldom or never persisting to maturity. They either result fatally at the time or are cured in infancy, or possibly may drag along into the early years of adolescence, when they carry the victim off. In some instances, though, they persist as surgical defects which limit the usefulness of the part operated on, but seldom or never endanger the life of the adult. The conditions of childhood, however, which do persist into adult life, are the vicious functional and bodily habits which are perpetuated through the mental habitude of the individual, consciously or subconsciously, and make or mar the adult life. My subject, therefore, contrary to the views of the previous speakers, is the most important one on the program. The habit aspect of the condition of childhood manifests itself throughout life in the production of diseased conditions at maturity. I use the word habit in two senses. It may be used as representing an involuntary act. A person may have the habit of constipation, and that may continue, without any organic lesion, into adult life. The word may also be used as indicating a tendency toward disease which may have been established in childhood and carried out in mature life. The word "vicious" may have two aspects also, that of immorality, which is the old idea, or better, as I prefer to use it, in the sense of perniciousness.

Almost every condition has within itself the possibility of the formation of a habit. We may have the common one—pain habit; as for instance an acute inflammation gives rise, by well-known pathologic conditions, to pain, but pain is not necessarily a condition per se, but the perception of an injury rather than the injury itself. We know that such an acute inflammation may be entirely relieved until there is no more manifestation of it; yet the pain may continue and be persistent, not only throughout childhood, but throughout adult life. "Pain habit" may thus be established and persist entirely independent of any inflammatory condition we can discern.

One particular habit which seems to me to be as important or more important than any of the above is the constipation habit. Habitual constipation is a term we use constantly in our conversation, and yet there may be no organic lesions which account for it, and in the majority of cases it depends more on habit aspect than it does on any organic lesion that may be found. If we discuss the question of vicious bodily habits, that is, immoral habits, may we not refer to the practice of masturbation in childhood and in adolescence, and its effects on the adult. There is no question at all but what masturbation comes to be a habit as practiced by some individuals. Masturbation, as practiced, however, by the majority of youths, does not become a habit, i. e., a condition over which the individual has no control, or a condition that requires extraordinary arrest of attention in order to break off the habit. The question came up in a conversation with Dr. Scott as to whether masturbation was not a normal condition at certain periods of the life of the boy. I do not look on masturbation as a disease necessarily, except as it manifests itself almost in the form of insanity, as it does in some instances. It is not a physical disease; it is the effect, however, of physical conditions. In a great many instances masturbation is practiced for its sedative effect, pure and simple. I recall the case of a boy who learned that it was possible to receive pleasure by manipulation of the parts, by going in swimming, when comparatively a young man, and coming in contact with a log on which he manipulated and from which act he experienced pleasurable sensation, and thus, in many instances as it proved by chance, masturbation is found out and followed later as a means of sedation; a sure method of letting down the nervous tension of the body which the individual finds to be comfortable.

There are many other questions which might be referred to under the head of vicious habits, that are simple in themselves, but which lead to graver consequences in maturity. I presume, however, the one that is most important from my standpoint is that of emotional prodigality, the habit of indulging the emotions: unrestrained emotional prodigality. In my line of practice there is no one one thing that is so pernicious and so productive of vicious conditions in the adult as emotional prodigality. It covers almost the entire field of nervous diseases. It is the basis of a great many of the functional derangements of maturity, and to my mind, in the great majority of cases, it is the forerunner of insanity in many of its forms.

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SATURDAY, SEPTEMBER 2, 1899.

BENIGN AND MALIGNANT ENDOCARDITIS.

It is not improbable that the symptom-complex clinically designated acute articular rheumatism is of multiple and varied origin, and it is not less improbable that the etiology of endocarditis is likewise not uniform. It is known, in fact, that both arthritis and endocarditis may arise in conjunction with a considerable number of infectious processes, and it is not surprising, therefore, that the course and termination of the two affections should vary accordingly. The endocardial lesions, further, may assume various forms, as indicated, for instance, by the pathologic qualifications verrucose, polypoid, villous, ulcerative, suppurative, and by the clinical qualifications benign and malignant. All of the differences hinted at must be attributed to variations in the etiologic factors, and many of the problems that are bound up with this interesting and complex subject must await their solution at the hands of the bacteriologist and perhaps of the physiologic chemist; and who knows but that the precise determination of the cause may in turn result in the discovery of an efficient and specific therapeutic agent.

In an address delivered recently before the Berlin Medical Society, Litten[1] pointed out that there sometimes occurs in the course of acute rheumatism a severe, almost invariably fatal, variety of acute endocarditis, which differs essentially from the ordinary benign variety of rheumatic endocarditis in not becoming stationary and leading to connective-tissue contraction, but, with progressive increase in the symptoms, in advancing steadily to a fatal termination. This form of endocarditis is to be distinguished from the severe septic variety generally designated "ulcerative" in not giving rise to suppurative processes. It is further characteristic of the variety of endocarditis under consideration that the articular rheumatism on which it is consequent responds promptly to the administration of salicylic acid.

Rheumatic endocarditis is characterized by deposition of the fibrin of the blood in places where the endocardium has been injured, and especially on the valves, which then undergo sclerosis, with resulting insufficiency and obstruction. The condition is probably dependent on the activity of micro-organisms, whose identity has not yet been established. Rheumatic endocarditis manifests a tendency to attack only the valves of the left side of the heart, in contradistinction to the fatal and malignant varieties. It may be looked on as a distinct localization of the rheumatic process rather than as a complication. It never gives rise to infective abscesses and malignant metastases, but to simple infarcts and anemic necrosis, and only in branches of the aortic tree. It exhibits a marked tendency to recurrence, so that recent endocarditis is often observed in association with old valvular disease. It is frequently complicated by fibrinous pericarditis. It presents no characteristic temperature-curve, as do the malignant varieties, but it may pursue an insidious course, so that a valvular lesion may develop without recognition of the stages of acute endocarditis. The contents of the swollen and painful joints are clear or slightly turbid, but never purulent. The promptitude of action of salicylic acid in its effects on the general and the articular condition is characteristic and typical of acute rheumatism in contradistinction from all other varieties of arthritis.

The septic, so-called "ulcerative" variety of endocarditis is not necessarily attended with ulceration, which is but an incident of the morbid process and may not even be present, while, on the other hand, it may attend other varieties of endocardial inflammation of different etiology and clinical course. This septic endocarditis is dependent on virulent micro-organisms, especially of pyogenic activity. In contrast with rheumatic endocarditis it exhibits a marked tendency to destruction of the affected valves. It attacks the right as well as the left side of the heart, and gives rise to malignant metastases and abscess formation, which may appear in any organ. The causative micro-organisms are derived from putrid and disintegrating venous thrombi, and the endocarditis may be but one symptom of the general process. When peritonitis occurs as a complication, it is always purulent. The endocarditis is usually accompanied by hemorrhagic nephritis. Etiologically, diphtheria of the placental site following abortion or normal labor or of the bowel, of the soft palate, of the labia majora, of the endometrium, severe disease of the uterine appendages in conjunction with thrombophlebitis, phlegmonous parametritis, purulent cellulitis of the neck, for instance following scarlet fever or typhoid fever, are the most important factors. The disease is

[1] Berliner Klin. Woch., July 10, 17, 1899.

characterized clinically by its acute and grave course, almost always terminating fatally, and by the height the temperature reaches, with erratic chills of quotidian, tertian or aberrant type. Cutaneous and retinal hemorrhages occur in the large majority of cases. Besides, suppurative processes occur in the skin and in the eye. Frequently mild manifestations of nephritis are present, with albumin and tube-casts in the urine and in the cases of hemorrhagic nephritis also with blood and blood-casts. The diazo reaction is seldom absent at the height of the attack; usually it is quite pronounced. The spleen is invariably enlarged, though during life not invariably so. When the spleen is the seat of abscesses these may be recognized by the development of perisplenitis, with palpable friction. When abscesses form in the lungs, and especially at the periphery, putrid pleurisy may readily develop. The endocarditis may be suspected from alterations in pulse, in cardiac activity and in respiration, in contrast with the rheumatic variety, which may pursue an insidious course. The rapidly fatal termination is characteristic of septic endocarditis. In the blood, especially after the chills, the same micro-organisms are found, when a positive result is obtained, as are present in the joints, and, in the event of death, also in the vegetations on the valves and in the spleen, of greatest significance with regard to the general process are the putrid and disintegrating thrombi.

The malignant rheumatic variety of endocarditis was first described by Litten[2], and he has studied altogether twenty cases of the disease. The disorder presents the characteristics of a severe general infection, with, as a rule, profound and extensive objective symptoms referable to the heart. The patient becomes anemic, cyanotic, apathetic. The temperature is relatively low, though at times it may be high and be interrupted by irregular, intermittent chills. The spleen is enlarged, the diazo reaction is present and hemorrhage takes place beneath the skin and the mucous membranes and into the retina. Acute hemorrhagic nephritis, with blood and blood-casts in the urine, is relatively frequent. The metastases that occur assume the form exclusively of simple infarcts and anemic necrosis, malignant and purulent metastases being entirely wanting. The course of the disease may extend over weeks or even months. Death is the usual termination.

The special variety of endocarditis under consideration sets in in the course of an attack of acute articular rheumatism or of chorea complicated by acute articular rheumatism, and the treatment of which the salicylates are successful. The endocardial lesion, however, instead of terminating in contraction of valve segments, progresses to ulceration and destruction and eventually to death. Sometimes it involves the right as well as the left side of the heart. Pericarditis is often an associated condition. The contents of the affected joints are never purulent, but serous, and clear or turbid. The action of the heart is greatly accelerated and arrhythmic, and there may be palpitation, with oppression and dyspnea. The most important and most characteristic feature on post-mortem examination is the total absence of any suppurative process of thrombophlebitis. In the contents of the joints during life, and in the blood and in the endocardial vegetations and in the spleen after death, Litten has in two cases, among seven examined bacteriologically, found a coccus capable of cultivation and possessing pathogenic activity for mice and guinea-pigs.

[2] Zeitsch. f. Klin. Med., B. ii, 1881.

HYPERPLASIA AND TUBERCULOSIS OF THE PHARYNGEAL TONSIL.

The etiology of adenoid vegetations in the nasopharynx, to the existence of which Wilhelm Meyer first called our attention, is still obscure. Meyer himself vaguely expresses the consideration that these vegetations might possibly stand in some relation to "scrofula." Others, as for instance Hopmann, looked on this hyperplasia of lymphatic tissue as due to constitutional conditions.

Isolated instances of tuberculosis of the pharyngeal tonsil were soon reported by Wendt and others. Lermoyez described two cases of tuberculosis of the pharyngeal tonsil in the living, and fully recognized the importance of this localization of tuberculosis. Soon afterward Dieulafoy made a more extensive investigation; he implanted pieces from the pharyngeal and faucial tonsils into the subcutaneous tissue of guinea-pigs, with the result that in 20 per cent. tuberculosis developed. These results have been properly criticized by Cornil and others. In the first place the point of inoculation into the abdominal wall might easily become secondarily infected: in the second place it is quite likely that tubercle bacilli are often accidentally present on the surface of the extirpated non-tuberculous tonsils. At any rate, this contingency can not be excluded, inasmuch as Dieulafoy neglected to examine the material histologically.

Broca, Brieger, Goure, and others examined pharyngeal tonsils for tuberculosis with negative results. Goure, whose material included 201 instances, did not find tuberculosis in a single case, although eighteen of the cases gave a family history of tuberculosis and seventeen were actually tuberculosis. Goure came to the conclusion that while tuberculosis of the pharyngeal tonsil probably occurs, it must be very rare. Wright, Brindle, Bottstein, Pluder and Fisher, Gradenigo, and lately Piffl have also studied hyperplastic pharyngeal tonsils with reference to tuberculosis. In Piffl's recent article[1], where these facts are stated, it appears that, excluding Dieulafoy's investigation, 655 pharyngeal tonsils have been examined histologically—and in some cases by means of inoculations—for tuberculosis, which was found to be present in 19 cases, or 2.9 per cent. Including the figures of Dieulafoy and others, the total number examined becomes 764, and among these 30 were tuberculous, or 4 per cent. Piffl's own study includes 100 cases of hyperplastic pharyngeal tonsils, of which three were

[1] Ztft. f. Heilkunde, 1899, xx, p. 297.

found to be tuberculous, by histologic examination, the presence of the tubercle germ being demonstrated in only one case. The family history and other clinical points in connection with these 100 cases were carefully investigated, but the results do not indicate that tuberculosis plays any general rôle in causing hyperplasia, whose character in the ninety-seven non-tuberculous cases did not present anything striking.

The study of the three tuberculous cases brought out the fact, already known, that there is no definite way of distinguishing between a tuberculous and a non-tuberculous hyperplastic tonsil, except by means of the microscopic examination. A study of all the known cases of tuberculosis of the pharyngeal tonsil showed a family history in nine. Tuberculosis of the pharyngeal tonsil should be thought of in cases of hyperplasia in patients with hereditary predisposition and when there are tuberculous processes in the surrounding tissues, especially those that are connected with the tonsil by means of lymphatic vessels.

The manner of infection in tuberculosis of the pharyngeal tonsil is probably through inspired air. There are three possibilities to be considered: 1, the inspired air; 2 through tuberculous sputum; 3, through the blood and lymph. The nasopharyngeal cavity presents several anatomic and physiologic peculiarities which predispose to primary infection, as for instance the presence of lymphoid tissue whose surface is not smooth but is provided with crypts and irregular depressions; the surface is not lined with ciliated epithelium throughout—in the crypts, especially in the young, flat epithelium may occur; catarrhal conditions often arise in the nasopharyngeal mucous membrane, leading to epithelial denudation, which may also be caused by mechanical lesions. These remarks apply with particular force to the pharyngeal tonsil, and especially so when this is in a condition of hyperplasia. Pfiff and others are therefore inclined to believe that in the majority of cases of tuberculosis of the tonsil the bacilli are deposited on the tonsil from the inspired air.

The second mode of infection i. e., through tuberculous sputum, presupposes a primary focus in the lower respiratory tract or in the lungs, and the presence of such a focus has been rarely demonstrated in the recorded cases.

The third possibility, namely, infection from the blood or lymph, probably need not be considered, inasmuch as it will be likely to occur only in connection with acute general miliary tuberculosis, in which it is not to be denied that miliary tubercles might also develop in the tonsil. The histologic study of tuberculous tonsils also rather indicates that the process generally extends inward from an infection near the surface.

Tuberculosis can not, therefore, be regarded as playing any general etiologic rôle in the production of hyperplasia of the pharyngeal tonsil. It would rather seem as if the hyperplastic tonsil is little likely to become infected and that the infection, when it does take place, is a secondary process, added to the already existing hyperplasia, whatever its real cause might be. The fact, however, that tuberculosis of the pharyngeal tonsil may occur should always be borne in mind, because of the danger of further spread of the disease. This also furnishes one of the strongest indications for the removal of this structure, even when the seat of but comparatively slight hyperplasia, and it goes without saying that its removal should be as complete as possible. Lermoyez says that it would be better, in case tuberculosis should exist, not to meddle with it than to remove it only in part.

THE DANGERS OF SANITARY OFFICIALS.

A story has been going the rounds of the secular press that a public health officer in Pennsylvania held up a boarding house at the muzzle of a revolver and compelled the unwilling inmates to undergo vaccination. A corrected statement followed in some cases, that the doctor was threatened by some persons present and that he simply defended himself by showing that he was armed. Accepting this last version as correct, it throws a better light on the matter, but shows also that the perils a sanitary official has sometimes to incur in the course of his duty are not altogether confined to the "wild and wooly" West or the Mexican frontier. Our latest European importations in our seaboard states are often as lawless and dangerous as border ruffians or mountain outlaws.

COMPULSORY NOTIFICATION OF TUBERCULOSIS.

A prosecution of a Detroit physician for not reporting a case of tuberculosis as ordered by the Board of Health, has ended by his being fined $50 and costs. Unless this judgment is set aside by a higher court, physicians will neglect to report cases of tuberculosis at their peril. Whether the health authorities will order placarding of the victims and their houses is perhaps questionable, but it might be predicated from the zeal which not long since prohibited public funerals of consumptives. (See JOURNAL, August 26, p. 553.) It appears to us that the health authorities of Detroit are a long way ahead of their time; in fact, it is possible that the sober sense of the rest of the world may never overtake them. If the testimony given in this trial has been justly reported, some very unguarded opinions have been expressed, such, for example, as that of one witness that he would dread being in a room with a consumptive more than with a case of smallpox. While one may not be able to deny the truth of such a statement in the particular case, it has hardly the true note of sincerity and certainly sounds extravagant. While all reasonable safeguards should be insured for the protection of the public, needless fears and extravagant precautions will in the long run only tend to make their advocates ridiculous.

AS OTHERS SEE US.

Profesor Mosso of Turin, the eminent Italian physiologist, has been visiting this country, and according to the Rome correspondent of the *Lancet* has sent home some of his impressions. Speaking of the physical development of Americans he says, in the letter quoted: "It is enough to look at the passers-by in the American streets to be convinced how much more developed and

strong they are than our compatriots. The boys and girls in point of physique are far superior to ours. . . . America teaches us by the plainest and the most impressive of examples that physical education may be carried to perfection without any military object. . . ." It has been so much the rule with us to consider the average American physique as not quite what it should be that it is refreshing to have such testimony from a competent foreign observer. It is probable that we have been given too much to self-depreciation; it has been as much too common to underestimate ourselves in some respects as to glorify ourselves in others. The average American may be less plump than his British fellow Anglo-Saxon—if it is correct to call him so—but in bone and muscle and nerve he is in all probability at least his equal if not, taking all classes together, his superior. This is, of course, mentioned only as an anthropologic fact.

INFLUENZA AND THE DEATH-RATE.

The July *Bulletin* of the Chicago Health Department has some interesting data in regard to influenza. The city has not been free from the disease at any time since the epidemic of 1891, in which year there were 336 deaths reported from this cause. In subsequent years the reported deaths were as follows: 1892, 103; 1893, 88; 1894, 51; 1895, 165; 1896, 17; 1897, 15; 1898, 281, and 304 up to the end of July, 1899. It would appear from these figures that we are entering on another period of special prevalence of the disease, and the figures are more significant when we remember that the deaths directly due to the disorder represent only a small proportion of the total in which its agency has existed. Thus, as the *Bulletin* shows, while the reported deaths from influenza in the epidemic of 1891 added only 1.25 per cent. to the total mortality of the year, yet through its fatal complications of other diseases it added 17 per cent. to the total mortality, and while this year, thus far, the influenza mortality is only 2.25 per cent. of the whole, yet the total is still over 14 per cent. greater than the average of that of the last five years. The lesser proportion now than in 1891 may very properly be credited to the existence of influenza during that period. While we are dreading the possible advent of the plague, leprosy and other disorders, and possibly educating the public, a little too much as to the dangers of tuberculosis, it would be well to give some attention to the public peril from a disease that is efficient to a greater or less extent in adding one-sixth or one-seventh to the normal average mortality, while that of tuberculosis hardly exceeds one-eighth or one-ninth. Neither cholera, smallpox, nor any other epidemic has been responsible for more deaths in this country than has influenza during the past ten years, yet as its own special death-rate is small we are apt to overlook its pernicious activity.

HIGH ALTITUDES AND THE BLOOD-COUNT.

In the "Transactions of the American Microscopical Society," Vol. xx, Dr. A. Mansfield Holmes of Denver publishes some experiments made at Manitou, Colo., and the summit of Pike's Peak, on the effect of sudden changes of altitude on the number of red blood-corpuscles. Similar observations made hitherto have been as a rule under conditions requiring the lapse of a considerable period of time between the blood-counts at the different altitudes. The immediate effects were therefore less assured, but at Pike's Peak the railroad afforded the means for a very rapid change of altitude of nearly 8000 feet. He found that the ascent caused at once an increase of 11.5 per cent. of the red corpuscles, which had increased, three hours later, while still on the mountain top, to 14.42 per cent. The descent in the evening was accompanied by a decrease of 9.56 per cent., though still over 4 per cent. above what it was before the ascent. It was also found that the blood of a person accustomed to residence at a high altitude was less reduced in red corpuscles than that of one not so acclimatized. Dr. Holmes is inclined to account for the phenomenon, in part at least, by the fact of the diminished amount of oxygen in the rarified air of high altitudes. The organism has to obtain the oxygen it demands, and does this by calling into action and circulation many red cells that had been in a quiescent state in the deeper tissues, but he does not attempt to describe how far this or other influences may be responsible. The study has not, so far as we are aware, been before made in this country with the special conditions of rapid change insured by Dr. Holmes, and it is therefore of some interest.

LIQUID AIR IN MEDICINE AND SURGERY.

While liquid air is not likely to realize all the sensational prophesies of magazine writers, it is possible that it may have an important and rather striking future in therapeutics. At present we have only a few positive facts, but these are suggestive. Dr. Campbell White, New York City, whose experience with this agent seems to have been more extensive than that of any other physician, and whose communications on the subject have been noticed in the JOURNAL, evidently has confidence in its value, and his published statements as to its apparent curative action in lupus, nevus and other skin affections are certainly encouraging. Even in cancer he has hopes of its proving an effective remedy, at least in some cases. As a local anesthetic its efficiency is evident and he has apparently demonstrated the remarkable fact that the intense cold of this agent may have no permanent bad effects. It is not to be expected that with it one could realize Edmond About's fantasy of the "man with the broken ear," but it does appear possible that some human tissues can undergo freezing with liquid air and yet preserve their vitality, notwithstanding the excessively low temperature to which they have been subjected. As a benumber of local pain, liquid air might be expected to have some value, and experience seems to have demonstrated it, but further than this it has been claimed that it has more than a mere temporary effect in neuralgia. As a local tissue stimulant and a retardant of bacterial activity, its usefulness seems to be assured by Dr. White's experience, while its possibilities in reducing temperature are self-evident. The medical and surgical utilities of this agent are as yet only partially tested, but from what has thus far been shown, its future is apparently a promising one. The facilities for its production have so far been limited mainly to one locality, but if the expectations aroused are realized, which we believe doubtful only to a certain extent, we may expect to see its manufacture widely extended.

HUMBUG AGAINST HUMBUG.

Chicago has been having a very refreshing exposé of the doings of Dowie and his followers during the past two or three weeks. The newspapers have been investigating the sect and have shown that this flourishing crowd has been working its followers and its victims unmercifully. While these revelations have not divulged anything that the members of the profession did not know, it has opened the eyes of the citizens to such an extent that Dowie will probably find it too hot to remain in Chicago. This note, however, is written to call attention to the fact that the "Christian Scientists" have become aware of the fact that the exposé of religious (?) healing might have a bad effect on them, and they have organized a society for the prevention of malpractice in spiritual healing. This amusing development reminds one very much of the thief-catch-thief idea. Just where the difference between Dowieism and Eddyism comes in is not quite easy for us to see. Possibly the followers of Mrs. Eddy have been a little more circumspect in their financial methods, although this is not so extraordinarily self-evident. Another development of the week is the reported "conversion" of Schweinfurth to Eddyism. This fellow, a few years ago, had nearly as large a following as Dowie now has, which promised to develop into a wonderful sect if his actions toward some of his female followers had not aroused the newspapers to show him up. Schweinfurth claimed, if we remember rightly, to be the Christ, and his place he called "Heaven," and it will be interesting to observe what reception he obtains in the major religiomedical sect. The present move of the "Christian Scientists" is a suspicious one in that it appears to be an attempt to exploit their quasi recognition in the Illinois medical practice act. We trust that the authorities will be in no way off their guard, and it is believed they will not. "Christian Science" is in need of as full a dose of legal treatment as is Dowieism itself.

EMPLOYMENT EXCLUSIVELY OF NUTRIENT ENEMATA.

There are times and conditions amid which it is highly desirable to afford rest to the stomach, and perhaps also to the upper bowel, and to avoid the administration of food by the usual channels. Subcutaneous feeding has not proved entirely practicable and at best its field of usefulness can only be limited. The use of the lower bowel for this purpose is attended with certain well-known recognized difficulties and it has not been extensively followed. Of late, however, numerous reports of the administration of nourishment by the rectum have found their way into literature exclusively, and Rost[1] details the plan of procedure pursued successfully in Ewald's service at the Augusta Hospital of Berlin. Absolute rest in bed is required of all patients subjected to the treatment. In the morning a cleansing enema is given, after the lapse of an hour the first nutrient injection and in the course of the day two further nutrient injections. A soft, vulcanite rubber tube is used, through which, with the patient in the lateral decubitus, the food is slowly injected as high as possible with gentle pressure by means of a syringe. Each enema consists of 250 c.c. of milk, the yolk of an egg, a small quantity of table salt, a small amount of flour and a moderate quantity of red wine, the daily amount reaching about 800 c.c. Pulse and temperature are carefully observed and this treatment is carried out for six days and occasionally longer. The mode of procedure has been successfully pursued in the treatment of diseases of both stomach and bowel, such as gastric ulcer and erosion, with or without hematemesis, gastrosuccorrhea, gastric dilatation and atony, acute and chronic, diarrhea, and in some cases of pulmonary tuberculosis and of chlorosis. When thirst or collapse is marked, physiologic salt solution may be injected into the bowel or beneath the skin. It was found that from 30 to 95 per cent. of the nutrient substances injected was absorbed. It is important that the amount injected be not too large and that the injections be not repeated too frequently and that they be given by competent persons. A small amount of opium may be added if necessary to insure retention. After the sixth day, if all goes well, the patient is put on a milk diet for a week. The milk, cooled, is given at first with a teaspoon, 250 c.c. on the first day, 500 c.c. on the second, and so on, in gradually increasing amounts up to 1500 c.c. At the end of this time purée of potato, and chopped or ground meat may be added; and later light pastry. In the fourth and fifth weeks the diet may be still further enlarged, avoiding alcohol, spices, and tough fibrous vegetables.

[1] Berliner Klin. Woch., July 24, 1899, p. 660.

Medical News.

DR. W. L. BALLENGER, Chicago, has returned from London, where he went to attend the International Congress of Otologists.

BY THE will of the late Dr. Chas. J. Stillé of the University of Pennsylvania, the department of political economy of Yale is to receive $75,000.

IT IS stated that the Church Missionary Society of England has received a report stating that 40,000 persons have died of famine on the east coast of Africa.

THE CHAIR of pathology in the University of St. Andrews, Aberdeen, has been filled by the election of Dr. Lewis H. Sutherland of Glasgow, assistant to the late Professor Coates.

DR. E. H. STARLING, F. R. S., lecturer on physiology at Guys' Hospital, has been appointed to the chair of physiology in University College, London, left vacant by Professor Schafer.

THE GOVERNORS of the Toronto Western Hospital have just completed the purchase of the McDonell property on Bathurst St., comprising several acres, and will at once begin the erection of a new structure.

DR. LISTON H. MONTGOMERY sailed from New York City, August 13, on the *Noordland*, for Brussels, to attend the forthcoming international conference for prophylaxis of syphilis and venereal diseases.

ANOTHER Dowie victim is a child of eleven years, of Chicago, who died August 27. The inquest showed that death was due to hydrocephalus. "Elder" Dinius, who had charge of the case, escaped with a censure.

DRS. N. SENN and D. R. BROWER, Chicago, have returned from the Hawaiian Islands. An interesting letter from Dr. Brower relating to the Islands, and especially to the lepers there, will be found in the correspondence columns.

AN EPIDEMIC of diphtheria is reported in the northern section of Baltimore, Md., thirty-one cases to date. Dr. Jones, health officer, has secured a large amount of antitoxin, and is now immunizing affected families and all who have been exposed.

ADVICES to the press state that yellow fever is still spreading in Tuxpan, Mexico, and that on an average ten deaths occur daily. The city of Tampico has taken active steps toward preventing its introduction into that territory.

DR. MCWILLIAMS, Thamesford, Ont., has reported a case of hydrophobia to the Provincial Board of Health, and since then three or four more cases have developed, all of whom will be immediately sent to the Pasteur Institute in New York City.

DR. F. R. WALTERS, physician of the North-London Hospital for Consumptives, describes the Massachusetts State Hospital for Consumptive and Tuberculous Patients in the *Lancet* of August 19, a page of illustrations accompanying the article.

AT THE county branch of the Manhattan State Hospital for the Insane, N. Y., one male patient was recently killed by another. The men had both been considered harmless, and one was employed in the field grubbing roots when seized with the murderous impulse.

THE AUXILIARY cruiser *Panther*, with provisions and supplies aggregating $50,000, left Philadelphia on the 23d inst. destined for Porto Rico. It is also stated that the Government will on September 1, dispatch the transport *Wright* from Baltimore, with supplies also destined for that destitute country.

PROF. ROBERT BUNSEN, the noted scientist of Heidelberg, is dead. Professor Bunsen devoted much of his life to analysis of gas, of mineral waters, to the phenomena attending combustion, to stellar chemistry, and was the founder of spectrum analysis. His name is a household word through the burner which bears his name.

DR. MACNAUGHTON JONES, London, president of the British Gynecological Society, tendered a dinner to some of the members of the International Otological Congress on August 10. Among those present from this country at the dinner were Dr. Barkan, San Francisco; Dr. Dench, New York; Dr. Knapp, New York; Dr. Moore Lindsay, Salt Lake City.

THE MEDICAL faculty of McGill University, Montreal, will commence the session of 1899-1900 with two additional professorships, Dr. T. J. W. Burgess having been appointed to the chair of mental diseases, and Dr. C. T. Martin to the assistant position of classic medicine. Both positions were created at a recent meeting of the corporation of the University. The new professors are both graduates of McGill.

NEW YORK CITY is having trouble in regard to the water-supply of the city passing into the hands of a company, similar to that which occurred recently in Philadelphia, and resolutions have been passed opposing the execution of the proposed contract between the city and a private company, and advocating the continuance of the present policy of municipal ownership in operation of all the city's water-supply.

ANOTHER death attributed to "Christian Science" treatment is reported from Needham, Mass., in the case of a child named James Van Alst Hedenberg. The child became ill with dysentery August 1, and died August 18. The case has attracted considerable interest on the part of the physicians of Needham, and it is reported that some action will be taken in order to apprehend the guilty party who in this case offers the excuse that she did all she could.

A REPORT of the quarterly examinations, held by the Illinois State Board of Health, August 1 to 4, shows that the following institutions were represented: Barnes Medical College, Beaumont Medical College, and the College of Physicians and Surgeons, St. Louis, Mo.; Northwestern University Woman's Medical College, Chicago, and the University of Erlangen, Germany. The candidates from these institutions all passed.

THE PLAGUE, acording to the *British Medical Journal*, August 19, is now officially declared present in Oporto, Portugal, and in Mauritius 40 cases with 32 deaths occurred during the week preceding the report. Reports from Alexandria, Egypt, August 13, show that after a week's interval one fatal case occurred on August 10, and 3 new cases and 2 deaths during the week ending August 15. In Hongkong the number of new cases during the week ending August 14 was 20, with 23 deaths.

THE BOARD OF HEALTH of San Juan, Porto Rico, on August 18 stated that the number of people killed during the recent severe storm in that country was 1973; missing, 1000; houses destroyed, 6421; persons homeless, 22,046; cities in need of physicians, drugs, and hospitals, Caguas, Yabucoa, Maunabo, Utuado, Coamo and Corosal. It is estimated that 2500 persons were killed at Ponce, and that 2000 are still missing. In consequence of the putrefaction of bodies in Arroyo, typhus fever has developed.

PRESS dispatches, dated Liverpool, August 21, state that a cablegram has been received by the Liverpool School of Tropical Diseases, from Major Ross, stating that the malarial mosquito has been found. Major Ross was recently sent by the above-named school to Sierra Leone or the "white man's grave" in Africa, in order to determine the casual relationship existing between the mosquito and malaria. It is reported that the British government will also send out a force of scientists to assist Dr. Ross.

HEALTH OFFICER DOTY, New York City, has officially declared that in view of the appearance of the bubonic plague in Portugal and Italy, the New York Quarantine is fully prepared to prevent its introduction into this country, should any cases arrive on any incoming vessels. The agents for the two steamship lines between New York and Portugal have agreed that from now on, until all danger is past and the disease declared extinct there, no passengers whatever will be carried here by their lines from points in Portugal.

AN EPIDEMIC of typhoid fever is reported from the town of Woodstock, Western Ontario. So far, some twenty odd cases have been reported to the medical health officer, Dr. T. G. Rice, who attributes the prevalence of the disease to the unsatisfactory condition of the wells in that town. Dead toads and other refuse have been allowed to accumulate in many of these wells, and in one, where a child one and a half years of age died from the disease, Dr. Rice reports that no less than a dozen dead toads were found.

FROM OUR foreign exchanges we learn that the Germans refrained from participating in the International Congress of Gynecology and Obstetrics which opened at Amsterdam, August 8, on account of hostility to the president, Prof. Hektor Treub, who spoke so disparagingly of German science on the occasion of Professor Döderlein's call to Groningen, two years ago. Even those who had accepted and whose addresses had been

published, remained away, thus depriving the Congress of its strictly international character. President Treub's address was in French, to which he added a summary, repeating it in turn in English, Italian and Dutch.

AS A result of the physical examination made of the soldiers composing the Tenth Regiment of Pennsylvania, who have recently returned from the Philippines, the United States officers in charge at San Francisco announce that there were but few soldiers who were unsound as a result of the hardships in those islands.

A DOMESTIC, 22 years of age, in Philadelphia, under the influence of bromid of ethyl for the extraction of a tooth, recently died within thirty seconds after the anesthetic had begun to be administered. It is stated that the drug was given in the usual manner, and that the proper precautions had been taken.

EXTENSIVE preparations have been made for the entertainment of the throng of people who will attend the G. A. R. encampment to be held next week in Philadelphia. In order to render proper protection a medical corps consisting of 125 physicians has been organized to attend those who fall ill during the festivities. The members of the committee are: Dr. Lewis C. Wessels; Dr. A. W. Hendricks; Dr. W. H. Zeigler; Dr. W. H. Hult; Dr. W. Batt and Dr. W. W. Lamb. Chief Surgeon T. H. Andrews will be medical director, assisted by Dr. A. H. Hulshizer.

THEY DO things scientifically out in Falls City, Neb. A man there, on August 22, criminally assaulted a little girl, and was quickly arrested and placed in jail; not, however, before a crowd of would-be avengers had tried and failed to get the prisoner away from the officers. Along in the small hours of the morning, several hundred men got together, marched to the jail, broke in the doors, and one of the number—"perhaps a physician," the newspapers have it—"performed a surgical operation which will prevent the prisoner from committing any more such crimes."

WHILE EVERY effort is being made in this country to raise the standard preliminary to a medical education, the French have lowered theirs, and by a recent decree, are to admit graduates from the so-called "modern" course—chemistry, physics and natural history—and no longer exact the diploma of the "classic" course—letters and philosophy. A similar movement has been agitated in Germany, but is frowned on in official circles, which even refuse to accept the classic diplomas of the Swiss universities, on account of the fact that Greek is optional and may be substituted by a modern language.

THE CALIFORNIA ASYLUM TROUBLE.—The investigation into the condition of affairs at the State Lunatic Asylum at Agnews, California, previously mentioned in the JOURNAL, and resulting from the finding of a female patient pregnant, culminated on August 23 in the dismissal of the superintendent of the Asylum, Dr. Sponogle. Governor Gage delivered a lengthy report on the investigation, with its findings, and his own investigation of the evidence submitted. His report says in part: "I have carefully considered all the testimony taken on the 12th and 13th days of July of this year, relating to the investigation of affairs at the State Hospital at Agnews, especially having reference to the unfortunate female patient known as Mrs. Chaffers, and have reached the conclusion therefrom that Dr. Sponogle is and has been culpably negligent in the premises, and from the testimony already taken and also from other investigations had, I have reached the further conclusion that he is and has been a person of immoral character for years, and should be dismissed forthwith; should be deposed on the ground of incompetency and also on the ground of immorality of character and general unfitness. Such a startling and infamous outrage as has been permitted to fall on this helpless patient is also just cause for the dismissal of both of the other physicians, at least on the ground of insufficient care in the conduct of their offices." The report also alleges other crimes against Dr. Sponogle, who has announced through his attorney, his refusal to retire from his position and his intention to file a suit for $100,000 damages, for libel and defamation of character, against Governor Gage.

Correspondence.

Hawaiian Islands, Climate, Leprosy, Insanity, Crime.

(Special Correspondence.)

(On Board Steamship *Australia*, en route to San Francisco.)

I left Chicago on July 7, and in three days reached San Francisco, and there met Prof. N. Senn, who had just completed, with great eclat, the Lane lectures at the Cooper Medical College. President Lane of this college, with an unheard of generosity, gives $2,000 a year for a course of ten lectures, that are intended, first, for the students of the Medical College, and second, for the practitioners of the coast generally. Dr. Senn's lectures were on military and emergency surgery, and were the fourth course. The first course was given by Macewen of Glasgow, on "Cerebral Surgery," the second by Heath of London, on "Practice of Surgery in England," and the third by Clifford, on the "Heart." The course given by Dr. Senn gathered together a much greater number of practitioners than any of the others, and was received with great enthusiasm. The great surgeon added to his laurels by these brilliant lectures. He is now engaged in making them the basis of a new book on surgery.

We left San Francisco on the *Mariposa*, and on the seventh day landed in Honolulu, on Oahu, not the largest, but the most populous of the eight populated islands. Just before entering, our steamer was boarded by Dr. F. R. Day, the port physician, an active member of the Hawaiian Board of Health, and a successful practitioner. But having no sickness on board we were permitted to land without delay. These Hawaiian Islands are a remarkable group; they are in the tropics, and yet the maximum temperature in the shade in Honolulu at sea-level is only 83 F. in August, and the minimum 62.9 F. in February. This remarkable condition is due, probably, to two causes: 1, the constant trade winds from the northeast, bringing coolness from Alaska, and 2, the small size of the islands, the temperature of the ocean being about 80 F. You can have almost any climate you desire: wet or dry, by getting on the windward or leeward side of the islands; warm or cool, by staying at sea-level or ascending the mountains. We spent a week on Molakai Island at an elevation of 1500 feet, and slept under blankets every night.

There was great excitement in Honolulu when we arrived, on account of the recent eruption of a volcano on the Island of Hawaii, and catching the enthusiasm, we engaged passage by the first steamer for this island—the steamer *Kinau*, a little tub, with a capacity for rolling and pitching that exceeded by far any previous experience of either of us, but by maintaining the recumbent posture most of the time I got there without "feeding the fishes." Dr. Senn has had no personal experience with mal de mer, and really enjoyed the trip. Hilo, the principal port of the island, is about 200 miles southwest of Honolulu. The rainfall on this island is greater than that on Oahu, and consequently vegetation is more luxuriant, as it is more tropical. The trip to the volcano was over thirty-one miles of a superb mountain road, through a luxuriant tropical

forest, with here and there a clearing for a sugar or coffee plantation, or a picturesque cottage, surrounded by tree ferns, tropical fruit trees and flowering shrubs. The eruption had ceased before we got there, but we could see the new crater and new lava from the Volcano House, and contented ourselves with visiting the almost extinct crater of Kilauea, the largest, but one, on the island, if not in the world. It is almost circular in form and about three miles in diameter; there is much smoldering fire beneath the lava and considerable steam and sulphur fumes constantly escaping from one portion of it. They have utilized the sulphur fumes at the Volcano House for bathing purposes.

One of the most interesting studies of the islands is leprosy. This disease was introduced from China in 1853, and has spread with frightful rapidity among the natives; somewhat among the other races, but to a very trifling extent among the Anglo-Saxons. The want of resistance to this bacillus, among the Hawaiians, may be due to their almost universal infection by syphilis. The government began the work of segregating them about thirty years ago, selecting for that place a tongue of land on the Island of Molokai, ten miles long and one mile in breadth, bounded by the ocean on one side and a perpendicular precipice 2000 to 3000 feet high on the land side. The soil is fertile, water abundant and pure, and no better place could be found in the country for a leper asylum. The lepers are the wards of the governent, and are generously cared for. Numerous cottages have been built for their use and no expense has been spared in having them organize comfortable homes of their own, the property reverting to the government at their death. Every inducement is offered, even to money prizes, to have them cultivate trees, flowers, vegetables, and excellent pasturage is furnished for horses and cows. They are furnished rations, clothing, bedding and, indeed, every thing necessary for their comfort—all this at a cost to the islands of $100,000 annually. There are now about 1200 lepers at the settlement, only six of them whites. The total population of the islands is 109,000, so that the cost is about $1 for every inhabitant. The total native population is about 31,000, hence deducting about 200 from the population of the settlement, for those who are not natives, leaves a proportion of 1 to about every 31 of those that are segregated, and they have not been ferreted out. This must be by all odds the largest proportion of leprosy to total population of any nation. There are on the settlement two homes provided by philanthropic individuals, one for orphan girls and helpless women, the other for orphan boys and helpless men; they are in charge of Roman Catholic sisters and lay brothers, who are doing admirably a most self-sacrificing work. It is interesting to note that although this work has been going on for about fifteen years, none of these good people have become infected. One government physician, Dr. Richard Oliver, lives in the settlement, and fills this lonely post with skill and fidelity. He has been there about eight years, and has also escaped infection. The only precaution these faithful workers seem to take is careful cleanliness, especially of the hands. The care of the lepers is directly under the Board of Health, the physicians of which are Drs. F. R. Day, C. B. Wood, N. B. Emerson, R. P. Myers, and H. W. Howard; assisting them are the various government physicians of the islands, of whom there are from three to six on each island. These government physicians, the sheriffs and police find the suspected cases and send them for study and examination to the receiving station, about four miles from Honolulu; here the above medical members of the Board of Health meet and diagnose each case. The examination is very thorough and includes not only the clinical history and physical examination, but in all doubtful cases a bacteriologic study as well. If the case is determined to be a leper, he goes to the settlement as soon as possible; if there is doubt he is called a "suspect" and either remains at the station for further study or is permitted his liberty, but required to report to the government physician at least once a month, when he is before the board again if necessary. I had the privilege of being present at one of these examinations, and can testify to the care and scientific skill displayed. I was surprised to find that several of the cases had been lepers for two or three years, due to the fact that so soon as a native suspects that he has the disease he hides himself, and his family and friends, having no fear of the disease, aid without hesitation. Leprosy is slowly diminishing. The rate would be more rapid if all cases could be segregated earlier. The average duration of life of the tubercular form is about seven years, of the neurotic form about twenty.

A free discussion of the subject with these several physicians, and my own observation, lead up to the following: The period of incubation is uncertain, probably not less than four years. Heredity diminishes resistance, but alone can not produce the disease. The disease is the result of inoculation. There is a home for the girls of leprous parents at Honolulu, that has been in operation for fifteen years; twenty-five have been under observation for this period and no case has developed and, indeed, in no inmate of shorter duration. The youngest child who has become leprous was 4 years old. Direct evidence in favor of the theory of inoculation are two cases, one, that of a man condemned for murder, who was inoculated in the arm and in due time developed the tubercular form of the disease, in that arm, and died a leper. In this case there has been some contention as to heredity, but I think it well established that while there is and was leprosy in collateral branches, yet there has been none among his direct progenitors. The other is the case of a German, who, with a varicose ulcer, slept in a bed, on several occasions, that had been occupied by a leper with the tuberculous form; after about eight years he developed the disease in that limb and died a leper.

Dr. L. F. Alvarez, the accomplished bacteriologist of the Board of Health, is earnestly endeavoring to procure pure cultures of the bacillus of Hansen and to produce the disease experimentally. He thinks he has made some impression on the mongoose, an animal imported to destroy the rats in Hawaii, but further inoculations are necessary. The very close morphologic relation of this bacillus to that of tuberculosis is interesting, being so near like it that an expert is necessary to differentiate. Yet their natural history is different.

The palliative treatment found most beneficial is hot baths, tonics, iron, quinin and strychnin, intestinal antiseptics, salol especially, and an abundance of easily digestible and nutritious food. I have no doubt the native's diet, consisting almost entirely of "poi," a preparation made from the taro, a plant much like arrow-root, and fish, usually raw, has something to do with his want of resistance to the bacillus lepræ. There is much said in Honolulu of the benefits to be derived from the baths of Kusatsu Hot Springs, Japan. Sulphur is the principal ingredient, in the form of sulphates of iron, aluminium, calcium, magnesium, soda and potash, with a large percentage of free sulphuric and hydrochloric acids. This water, artificially prepared at the settlement, has been found no better than ordinary hot water. The springs are situated in the mountains in a very salubrious climate, which doubtless has much to do with the benefits derived—no cases have been cured.

Our recent acquisition of territory, and our close commercial relations with China and Japan make the question of leprosy one of increasing importance.

We visited the Oahu Insane Asylum with Dr. F. H. Humphris, the acting superintendent, and found there 89 males and 23 females; the excess of males is quite surprising. We found every patient out of doors under the shade trees, or on verandas; such is the climate that this is possible every day of the year, artificial heat never being necessary. Of the numbers above given, 35 were Hawaiians, 33 Chinese, 3 American. The number of Chinese on the island almost equals the number of natives. Paresis, paranoia and suicides are never

found among the natives, and the types they do present are not very active. The buildings, ground and general management deserve commendation.

The great questions of criminology must be considered more seriously by the people of the islands as elsewhere, for here, also crime is increasing. I visited, with Dr. Chas. B. Cooper, the Oahu Prison, the penitentiary of the islands. We found there 155 males and 1 female, who were as well taken care of as possible. I have no doubt they will soon erect a new building and arrange for the better employment of these delinquents. From the last report of the Attorney-General of the Republic, there were in two years 19,177 arrests and 13,344 convictions. This is no small proportion for a population of only 109,000. The total number of prisoners in jails was 1225 during the period of 1896-1897; of these 937 were for misdemeanors, the principal being drunkenness, gambling and possession of opium. The crimes against property and persons number 288, of which the chief were larceny, assault with weapons, and distilling liquor. The number of criminal cases before the Supreme and Circuit Courts has increased in ten years from 165 to 837.

We left the islands with great reluctance, and will ever be mindful of the generous hospitality that we met on every side, well satisfied that in these gems of the Pacific we have a great acquisition, and one in which most important racial problems are in process of solution, regretting that without any prophetic power one can easily see the passing of the Hawaiian.

D. R. BROWER, M.D.

The Government Hospital for the Insane.

NEW YORK CITY, Aug. 20, 1899.

To the Editor:—Notwithstanding the fact of numerous applicants for the post of superintendent, the vacancy in the Government Hospital for the Insane yet awaits a successor to the late incumbent whose death occurred several months ago. We learn from Washington that the delay in making the appointment is a matter of no small concern among those interested, who are chiefly the applicants for the position, the hospital attendants and the inmates themselves, many of whom, though of unsound mind, have enough intelligence to feel and express a lively interest in the matter.

That this institution, so well endowed by the Government, and having so many possibilities in the way of clinical material that might be utilized for the advancement of science, should have a competent specialist in mental and nervous diseases as its medical head is a consummation devoutly to be wished. We have no unkind remarks of any sort to make concerning superintendents of insane asylums, many of whom are among our best friends, but candor forces us to admit that as a class they have been criticized for old fogyism and non-progressiveness. At a meeting of the AMERICAN MEDICAL ASSOCIATION, a few years ago, it was the general agreement of the speakers who debated the question that when a member of our profession becomes the superintendent of an insane asylum he ceases to be a physician, his multifarious duties obliging him to be a farmer, a politician, a gardener, jailer, boarding-house keeper, disbursing officer, and the like. Besides, it does not appear that any one ever connected with an insane asylum has made any important discovery regarding the brain or nervous system, nor has any one of them written a book of importance, or done anything to inprove the condition of the insane; all such discoveries and improvements having originated with persons unconnected with asylums, just as advances in army sanitation and in ordnance have originated with civilians.

Despite these facts, it is a common fallacy among the populace, and even among lawyers otherwise well informed, that a superintendent of an asylum must necessarily know a great deal about insanity, and his testimony is accordingly often sought in courts where a medicolegal question is being considered; but as a matter of truth, most of them are profoundly innocent of any great erudition in psychiatry or neurology, and lack the accuracy, credibility, and skill of the real expert. On this subject a high authority compares the janitor of a medical school, who for years sees cadavers come into the dissecting-room by the hundred, but does not know as much about anatomy as any intelligent medical student who has dissected but half the body. It is therefore not the great number of cases of insanity that one sees, but rather the amount of intelligent study and observation brought to bear on a few cases that make one an expert.

It is probably owing to the false system of selection, more than to other causes, that the services of incompetent men are secured in asylums. Few of them, before appointment, have had either practical or theoretic experience in the treatment of mental or nervous disease, while those who have had asylum experience, having seen chronic cases only, are totally unfamiliar with the incipient stages of insanity and are uninformed in contemporary neurology. Hence, it is not surprising that a superintendent of an asylum adds luster to the profession when on the witness stand, in a matter of life and death, he solemnly tells the court there is no such thing as nocturnal epilepsy; that quinia has no effect on the brain; that heredity is not a factor in insanity; and that there is no such thing as hysteric insanity, or he would have heard of it in his thirty years of asylum experience.

An average medical student in his first course would make a better showing than this, although he may not know that at least fifty treatises have been written on hysteric insanity; that it is also mentioned in Le Grand Du Saulle's "Legal Medicine," and in Campbell Clark's "Mental Diseases," not to mention the fact that numerous cases are treated by neurologists.

Arraignment, we are aware, does not include the whole class of whom we write, for judicial fairness obliges us to say there are notable exceptions, but to particularize them would be invidious and foreign to the present purpose, which is merely to express condemnation of a vicious system of appointment that secures incompetent men.

We trust that President McKinley, in making a selection, will secure the services of some competent and up-to-date neurologist who has the confidence and support of his colleagues. That there are such among the members of the American Neurological Association, we all know, but it is a matter of grave doubt whether the small salary attached to the position is an inducement that would tempt any specialist of the kind with even a fair practice.

Locomotor Ataxia Has No Relation With Syphilis.

NEW YORK CITY, August 25, 1899.

To the Editor—The German correspondent of the *Phila. Med. Jour.*, August 19, page 333, speaking of Heidelberg clinics and the dread nature of syphilis, says: "Professor Erb, from his researches in one thousand cases, believes that 'tabes' (locomotor ataxia) is almost without exception due to syphilis."

How would Professor Erb explain the fact, that in Japan, where syphilis has scourged the population for 1300 years, locomotor ataxia is unknown? In a venereal clinic of ten thousand cases I did not find a single case of locomotor ataxia. Nor did I meet a native physician who knew of such a disease as "tabes."

Opposed to this opinion of Professor Erb, in Germany there stands that of Professor Virchow, who believes that syphilis has no relation whatever to locomotor ataxia.

ALBERT S. ASHMEAD, M. D.

[Apropos of the above from Dr. Ashmead, we quote the following abstract from the August number of the *Journal of Nervous and Mental Disease*, referring to a paper on "Tabes Dorsalis und Syphilis," by A. Guttman (*Zeitschr. f. Klin. Med.*, 35, 1898, p. 242): "The reaction, evident of recent years, against the view of the etiological significance of syphilis in

tabes, is made more pronounced in the statistics of the author. In all some 136 cases of tabes were closely studied, and of these, deducting six doubtful cases, 28.6 per cent. had had syphilis, while 71.4 per cent. were distinctly nonsyphilitic." The author also considers the evidence derived from the fruitfulness of syphilitic medication, and gives his approval of the general methods used to strengthen the body—baths, massage and electricity."—ED.]

"The Spooner Bill."

MILWAUKEE, Wis., August 26, 1899.

To the Editor:—In a communication from Dr. H. M. Bracken of Minneapolis, in the August 5 number of the JOURNAL, appears the statement that, at the annual meeting of the Conference of State and Provincial Boards of Health of North America, held at Richmond, Va., "as a matter of fact there were probably not more than twenty voters in the room when an indorsement of the Spooner bill was called for." This statement gives the impression that the Spooner bill was indorsed at this Conference by a very small faction. The facts are, however, that by actual count there were thirty-six in the room at the time the vote was taken, and when it is borne in mind that those thirty-six represented about twenty or more states in the Union, the vote was more significant than would appear by Dr. Bracken's statement.

The positive statement in the communication of Dr. Bracken: that "the Spooner bill will never give an organization established on as firm a foundation as the army or navy, or the marine-hospital service" strikes one with astonishment when one considers its source as against the combined intelligence of the AMERICAN MEDICAL ASSOCIATION, the largest medical organization in the country, and the American Public Health Association, the largest sanitary body in the world, and the New York Academy of Medicine, together with many state medical societies and the great majority of leading sanitarians of the country.

Respectfully, U. O. B. WINGATE, M.D.

London.

(From Our Regular Correspondent.)

LONDON, Aug. 15, 1899.

BRITISH MEDICAL ASSOCIATION—Whatever benefit the recent unprecedented hot weather may have been to the harvest, it sadly interfered with the success of the sixty-seventh annual meeting of the British Medical Association at Portsmouth. The most hospitable and elaborate arrangements had been made by the local committee, but of the 1800 members anticipated hardly 800 turned up, and the Isle of Wight and the New Forest saw more of a third of these than did the sections. And no wonder, for the weather was stillingly hot. The president's address was delivered to a fair audience, largely of townspeople; the address in medicine had about 200 hearers—at the beginning: the address in surgery had hardly 75, and the final general meeting could not have secured a quorum if two dozen were the minimum. The medical and surgical sections were, as usual, the best attended, with about 150 to 200 in each, but the oft-denounced "lack of interest in scientific medicine" brought the attendance at the section on pathology down to an average of about fifteen, and in that of anatomy and physiology there were at one painful epoch precisely three persons present in addition to the chairman and the reader of the paper. These facts are mentioned not in any fault-finding or even critical spirit, for considering the weather and the abominable ventilation of the rooms, with reference to the limits of human endurance, the attendances were excellent, but simply to console those of our own brethren who think the American profession is "going to the dogs," because the excursions and entertainments seem to draw more attention and attendance than the scientific sessions of the A. M. A. Even the English profession, with its high standards and solemn sense of duty and dignity, is human like the rest of us—and we like it all the better for it.

A curious touch of picturesqueness and ceremony was given to the general meetings by the custom observed by the president of the Association and the deliverers of the addresses, of appearing in the scarlet gowns of their university or college degrees.

The rôle played by the general meetings was certainly much less than our own annual gatherings, the real business of the Association being evidently transacted by the powerful, well-organized General Medical Council. After the addresses had been delivered, the "business" matters were often discussed by a mere handful of members, there being almost as many on the platform as in the body of the hall, at times. There seems to be a general impression that the Council shapes the ends of the Association about as it chooses, let the members roughen them as they will, and so this gentle amusement is left to a mere handful of hopeful enthusiasts. A vote of censure was passed on a certain action of the Council at this meeting by a vote of 16 to 5, and some 800 members were registered as in attendance.

The management of the programs in the sections was excellent, most of the papers were mercifully short and to the point, and the discussions followed suit. Those who ran over their time were promptly checked, either by the chairman or by a most unmistakable change in the atmosphere at the meeting. There was no attempt to lay out a complete program for the four days, the list of papers for each day being issued early that morning, and those who were to read being notified the evening before. There was the usual overcrop of papers, but by grouping together papers on kindred subjects for simultaneous discussion, or introducing epitomes of them into such of the big discussions as they were germane to, the docket was cleverly cleared in nearly all sections. The great discussions on set subjects were the chief centers of interest and attendance, as with us. No better way of getting a clear and illuminating working conception of a subject or problem, from all points of view, has yet been invented. Their only fault is that they flatten the separate papers into a hopeless background, and the object of such meetings is to encourage original work as well as to diffuse information and broaden the view of the profession.

VACCINATION.—The Leicester Board of Guardians has decided not to appeal but go manfully to prison, sooner than comply with the mandamus and appoint a vaccination officer, as referred to previously in these columns.

Canada.

(From Our Regular Correspondent.)

TORONTO, Aug. 26, 1899.

CEREBROSPINAL MENINGITIS IN ONTARIO.—The bacteriologist of the Provincial Board of Health, Dr. John J. Mackenzie, in his report before that body, deals with this subject. The laboratory during the first four months of the year, received four specimens from cases of suspected cerebrospinal meningitis. After dwelling on the characteristic differences between the diplococcus of pneumonia and the specific organism of cerebrospinal meningitis, the diplococcus intracellularis meningitidis, and the appearance of epidemics within the past year in Boston, Baltimore and Philadelphia, he states the first specimen was received on March 20, 1899. To quote from the report: "The specimen was from a fatal case with an illness of about forty-eight hours. The specimen consisted of about 25 c.c. of bloody cerebrospinal fluid, with a white sediment and containing white flocculi. On centrifuging it separated into a layer of reddish sediment with a clear blood-stained fluid above. A number of cultures were made from the material on different media, but they all remained sterile. Stained preparation showed that the sediment consisted of red blood-corpuscles, polynuclear leucocytes and large mononuclear leucocytes. Certain of the polynuclear leucocytes contained diplococci some-

what flattened 1.0 m. by 0.75 m. in pairs. These organisms did not take the Gram stain. Two grey mice were inoculated, one subcutaneously with .5 c.c. of the fluid, the other intraperitoneally with .25 c.c. of the same material. Both animals lived, the second showing slight illness for a day." The germs were apparently dead when received. "Within a month, three other specimens were received from the same county; but in no case could a positive diagnosis be made, although in one the same intracellular diplococci were found." Dr. Mackenzie emphasizes the importance of physicians throughout the Province making thorough diagnoses in these cases in order to prevent the possibility of any epidemic such as occurred in Boston and elsewhere.

THE GRASS BACILLUS.—The same bacteriologist has also lately been making investigations into the character of a bacillus found in grass, resembling the tubercle bacillus. He states in the same report, this bacillus was first described by Moeller, but that its first recognition was due to Rabinowitch, in butter. Dr. Mackenzie found this organism present in different specimens of hay, and from one succeeded in isolating it in pure culture. "Its growth in culture-media is not unlike that of the bacillus of tuberculosis except that it is much more luxuriant and rapid. It stains with ordinary tubercle stain, and in cover-glass preparations looks so like the tubercle bacillus as to give rise to doubt to one not well acquainted with the true form." He was able to demonstrate that its peculiar staining characters were due to a fatty envelope, as in the bacillus of tuberculosis. This fatty envelope can be readily dissolved off with alcohol, and on being boiled in the same medium the organism will not then take the peculiar stain. There is danger of confusing it with the tubercle bacillus in butter and in milk.

STUDYING THE TENIA ECHINOCOCCUS IN MANITOBA.—Dr. Gordon Bell has been making experimental studies in the laboratory of the Manitoba Medical College. From Dr. Chown of the same city, Winnipeg, who had operated on the liver of a patient, the experimenter received a few hours after such operation, daughter hydatid cysts, which he fed to two dogs. Subsequently, after the lapse of five weeks, one of the dogs was killed, but either on account of the time being insufficient for the development of worms, or else because of the scolices being unable to obtain a hold—the animal being affected with an intestinal catarrh at the time, there was nothing whatever found. In the case of the other dog, nine weeks were allowed to elapse before the animal was killed and examined, when it was found that hundreds of mature tenia infested the lower part of the duodenum and upper part of the jejunum. Their appearance was that of delicate white filaments, ranging from 1/8 to 1/6 of an inch in length, the head being firmly planted in the villi of the intestine. They could not be dislodged under the force of a stream of water, and even after being placed in a solution of formalin, they still retained their hold. Viewed microscopically they consisted of four segments, the last one alone containing eggs, and in some of them the proscolex could be made out quite distinctly. Clear refractive granules were scattered throughout all the segments, including the head, but their significance not determined. This was the first instance of the mature tenia having been demonstrated in Manitoba, although hydatid cysts are more common there than in any other part of America. Still withal, there is no instance of a case having originated in this country, they being without exception imported from Iceland.

SEWAGE FARM AT MONTREAL.—Montreal is to have a sewage farm; and it is expected that the work, which is an experiment on the part of that city, will be fully completed by September 1. The plan, which is similar to that in several English and Continental cities, in Canton, Ohio; in Marlboro, Mass.; at the Asylum for the Insane in London, Ont., at the St. Laurent College and in St. Laurent, Jacques Cartier County, P.Q., consists in bringing the sewage waters on a field prepared especially to receive them. Then they are filtered through the earth, purified and ultimately returned to their natural water-courses. In this case the natural water-course will be Back River. The farm comprises an area of ten acres, which will be used as a truck farm with thirty beds, 77x100 feet across, which will be employed for the purpose of raising melons, cauliflowers, cucumbers, etc. The tank-house will be twenty-four feet square, and the work of laying the pipes is now proceeding under the direction of the contractor. Nothing will be lost by this system; the waste separated from the water, by filtration, will become in turn fertilizer for the farm. The sewage will be passed through large eighteen-inch mains, and the water, filtering down through the earth, will then pass through perforated farm tiles laid three and one-half feet underground, covered over with one foot of coke. When completed the work will cost in the neighborhood of $20,000.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers.

INTERSTITIAL GINGIVITIS OR SO-CALLED PYORRHEA ALVEOLARIS. By Eugene S. Talbot, professor of Dental and Oral Surgery, Northwestern University, Etc. Octavo. Cloth. Pp. 192. Seventy-three illustrations. Philadelphia: The S. S. White Dental Mfg. Co. 1899.

TEXT-BOOK OF DISEASES OF THE NOSE AND THROAT. By D. Braden Kyle, M.D., Clinical Professor of Laryngology and Rhinology, Jefferson Medical College; Consulting Laryngologist, Rhinologist and Otologist, St. Agnes' Hospital; Bacteriologist to the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases, Etc. Octavo. Illustrated. Pp. 646. Price, Cloth, $4.50; Sheep, $5. Philadelphia: W. B. Saunders. 1899.

THE HYGIENE OF TRANSMISSIBLE DISEASES: Their Causation, Modes of Dissemination and Methods of Prevention. By A. C. Abbott, M.D. Professor of Hygiene and Bacteriology, and Director of the Laboratory of Hygiene, University of Pennsylvania. Octavo. Cloth. Illustrated. Pp. 312. Price, $2. Philadelphia: W. B. Saunders. 1899.

GENERAL PATHOLOGY, or the Science of the Cause, Nature and Course of the Pathologic Disturbances which occur in the living subject. By Dr. Ernst Ziegler, Professor of Pathologic Anatomy and of General Pathology of the University of Freiburg in Breisgau. Translated from The Ninth Revised German Edition, by Drs. Theo. Dunham, F. M. Foote, Philip H. Hiss, Jr., Walter B. James, Wm. G. Le Boutillier and Matthias Nicoll, Jr., New York, Dr. B. Meade Bolton of Philadelphia, and Drs. Leonard Woolsey Bacon, Jr., John S. Ely, and R. A. McDonnell, New Haven, Conn. Editor, Dr. Albert H. Buck of New York. Complete in one octavo volume of 621 pages, illustrated by 544 wood engravings in black and numerous colors, and lithographic plate. Extra muslin, $5, net; brown sheep, $5.75, net. New York: Wm. Wood & Co. 1899.

TRANSACTIONS OF THE AMERICAN MICROSCOPICAL SOCIETY. Edited by the Secretary. Twenty-first annual meeting held at Syracuse, New York, Aug. 30, 31 and Sept. 1, 1898. Volume XX. Octavo. Paper. Pp. 369. Lincoln, Neb.: Hunter Printing Co. 1899.

MIND AND BODY, HYPNOTISM AND SUGGESTION APPLIED IN THERAPEUTICS AND EDUCATION. By Alvan C. Halphide. Illustrated. Octavo. Cloth. Pp. 231. Chicago: Published by the Author. 1899.

SELECTED PAPERS ON STONE, PROSTATE AND OTHER URINARY DISORDERS. By Reginald Harrison, F.R.C.S. 8vo. Cloth. Pp. 190. Price, $1.75. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co.

THE GROSS AND MINUTE ANATOMY OF THE CENTRAL NERVOUS SYSTEM. By H. C. Gordinier, A.M., M.D. Professor of Phys-

iology and of the Anatomy of the Nervous System in the Albany Medical College; with 48 full-page plates and 213 other illustrations, many of which are priated in colors, a large number being from original sources. Octavo. Price, net, $6, cloth; $7, sheep. Philadelphia: P. Blakiston's Son & Co. 1899.

ARCHIVES OF THE ROENTGEN RAY (formerly Archives of Skiagraphy). Edited by Thomas Moore, F.R.C.S., and Ernest Payne, M. A. (Cantab.). Nos. 3 and 4. Quarto. Illustrated. Price $1 a part. London: The Rebman Publishing Co. 1899. American Agent, W. B. Saunders, Philadelphia.

PRACTICAL ANATOMY, including a Special Section on the Fundamental Principles of Anatomy. Edited by W. T. Eckley, M. D., Professor of Anatomy in the College of Physicians and Surgeons, University of Illinois; Professor of Anatomy in the Northwestern University Dental School; Professor of Anatomy in the Chicago Clinical School, Etc. With 347 illustrations, many of which are in colors. Octavo. Price, $3.50, net, cloth; $4, net, oil-cloth. Philadelphia: P. Blakiston's Son & Co.

A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS, OR THE ACTION OF DRUGS IN HEALTH AND DISEASE. For the use of Students and Practitioners of Medicine. By Arthur R. Cushny, M.A., M.D., Aberd. Professor of Materia Medica and Therapeutics in the University of Michigan Medical Department, Ann Arbor. In one octavo volume of 728 pages, with 47 engravings. Cloth, $3.75, net. Philadelphia and New York: Lea Brothers & Co. 1899.

INTERNATIONAL CLINICS: A Quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Gynecology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otology and Dermatology, and Specially Prepared Articles on Treatment and Drugs, Etc. Edited by Judson Daland, M.D. Volume II. Ninth Series 1899. Octavo Cloth. Pp. 310. Philadelphia: J. B. Lippincott Co.

Deaths and Obituaries.

MAX THORNER, M.D., Cincinnati, Ohio, a graduate of the University of Munich, Germany, 1884, died suddenly August 26 at his home in Cincinnati. Dr. Thorner was 40 years of age, professor of clinical laryngology and otology in the Cincinnati College of Medicine and Surgery; laryngologist and aurist to the Cincinnati Hospital, and a member of the Cincinnati Academy of Medicine, AMERICAN MEDICAL ASSOCIATION, Ohio State Medical Society, and others. He was also at one time president of the Cincinnati Medical Society and was secretary of the section on otology at the first Pan-American Medical Congress. He was a Fellow, and in 1889 vice-president of the American Laryngological, Rhinological and Otological Society, and a Fellow of the Berlin Laryngological Society and the American Academy of Medicine. At a called meeting of the medical profession, August 28, on which occasion Dr. E. W. Mitchell, president of the Academy of Medicine of Cincinnati, presided, the following resolutions were adopted:

WHEREAS, The medical profession of Cincinnati having met on Monday, August 28, for the purpose of taking action on the death of Dr. Max Thorner, adopted the following resolutions:

In the death of Dr. Max Thorner the profession has suffered a severe loss. He was a man of eminent professional attainments and broad, progressive and generous character. He was a man of high ideals and constantly strove to attain the greatest possible professional skill. His devotion to the science of medicine was intense and disinterested, and in all his relations with his fellowmen his zeal for what was good and worthy distinguished him.

The profession has lost a beloved member and the public a citizen of probity, learning and industry.

The medical profession desires to extend to the bereaved family its sincerest sympathy.

T. V. FITZPATRICK,
PHILLIP ZENNER,
H. W. BETTMAN,
WM. C. HARRIS,
A. H. FREIBERG,
Committee.

Also at this meeting the following resolutions from the medical staff of the Cincinnati Hospital were read:

WHEREAS: We learn with profound regret of the death of our esteemed colleague, Dr. Max Thorner. Therefore be it

Resolved, That in the death of Dr. Thorner the Cincinnati Hospital has lost a very able and useful member of its medical staff. One whose conscientious and honorable conduct rendered his services especially valuable to the institution.

Resolved, That the members of the medical staff extend their sympathy to the family of the deceased in its sudden and untimely bereavement.

J. C. OLIVER,
G. A. FACKLER,
S. E. ALLEN,
Committee.
W. EDWARDS SCHENCK,
Secretary of Meeting.

JOHN J. LINSON, M.D., New York Medical College (now extinct), 1856, died of cardiac disease at Tarrytown, N. Y., August 27. He was a Civil War veteran, having served with the 6th New York Heavy Artillery, and was at one time surgeon of the provost marshal's office in his residential district. He leaves two daughters and four sons, one of them ex-Senator John J. Linson of Kingston, N. Y.

SAMUEL BROWN WYLIE MCLEOD, M.D., died at his home in New York, August 23, after a brief illness, remotely attributable to an accidental fall from a trolley car. He was of Scottish ancestry, a son and a grandson of a clergyman, as well as a cousin of the late Dr. Cornelius R. Agnew. His birthplace was Galway, N. Y., and his entrance on a collegiate career began in 1849 in his 20th year, at the University of Pennsylvania, while his grandfather was both provost and professor of languages. After graduation in 1852 from the College of Physicians and Surgeons, New York, he went to Paris for the continuation of his studies. His life was full of medical and charitable activities, besides being identified with the theological seminary attached to the church over which his father presided. As a staunch member of the AMERICAN MEDICAL ASSOCIATION and a high official in many medical societies he was widely known to the profession. He was an authority on obstetrics and to a certain extent in medical jurisprudence.

J. PEMBROKE THOM, M.D., Baltimore, Md., died August 21, after an illness of six months. He was born in Culpeper County, Va., 71 years ago, and served gallantly throughout the Mexican War. He was graduated at Jefferson Medical College and entered the navy as surgeon and had been a member of the City Council and Speaker of the House of Delegates of Maryland. He was also one of the founders of the Hospital for the Women of Maryland. Dr. Thom retired from practice a number of years ago.

JOSEPH COBLENTZ, M.D., formerly of Reading, Pa., died, aged 72 years at Vaughn, Wash., August 6.

SAMUEL B. GILMORE, M.D., a graduate with the last medical class of the University of Pennsylvania, died in Philadelphia from typhoid fever, August 13, aged 23 years.

ALEXANDER CRAIG, M.D., Jefferson, 1865, died of apoplexy, aged 61 years, at his home in Columbia, Pa., August 17.

JAMES L. KORTRIGHT, M.D., College of Physicians and Surgeons, New York, 1881, formerly of Brooklyn, N.Y., died at Middletown, N.Y., August 14. He was born in Brooklyn in 1859, and as a gynecologist was favorably known. He was at one time an attending physician at the Kings' County Hospital, New York State.

WILLIAM A. JACOBS, M.D., Centre Hall, Pa., died in that township on August 16. Dr. Jacobs served in the Civil War as second lieutenant of Company G., 148th Pa. Vols. He was a graduate of the University of Pennsylvania.

JOHN FISHER, M.D., aged 38, died August 15, of hemorrhage of the lungs, in Baltimore. He was born in Germany and came to Baltimore thirty-two years ago, and received his degree of M.D., from the College of Physicians and Surgeons of Baltimore in 1892.

GEORGE W. AMMON, M.D., Reading, Pa., died August 13, aged 37 years.... Randolph V. Barksdale, M.D., Danville, Va., August 21, aged 83 years ...John Binney, Mount Olive, Ill., August 14....S. G. Blythe, Nora Springs, Iowa, August 10.... John W. Dederick, M.D., St. Francisville, La., August 19, aged

80 years....John S. Harris, M.D., Dublin, Miss., August 8.... R. C. Holladay, M.D., Hot Springs, Ark., August 23....J. M. Logan, M.D., Kansas City, Mo., August 12, aged 54 years.... J. C. Maxwell, M.D., Greenwood, S. C., August 12, aged 62 years....Julius Northhelfer, M.D., St. Louis, Mo., August 14, aged 43 years....Emory Pedigo, M.D., Edmonton, Ky., August 11, aged 55 years....Joseph Shields, Punxsutawney, Pa.... Andrew Schrenk, M.D., New York City, August 20....Edward Sprague, Coraopolis, Pa., August 12, aged 65 years....Edward T. Shepard, New Orleans, La., August 12, aged 55 years.... James L. Stone, M.D., Roanoke, Va., August 17.

DEATHS ABROAD.

Professor Balbiani of the College de France, the last of the group that surrounded Claude Bernard. His research in comparative embryology, histology and physiology is now classic. Descended from a titled Italian family, he was born at Havana in 1823, educated in Germany, and became professor at Paris, where he founded the *Archives d' Anatomie Microscopique*.

Canadian Medical Association.

(Thirty-Second Annual Meeting, held in Toronto, Ont., Aug. 30, 31 and Sept. 1, 1899.)

[Telegraphic report by the JOURNAL's Special Representative.]

FIRST DAY—MORNING SESSION.

The opening session was held in the normal school building, at 10:30 a.m., under the presidency of Dr. Irving H. Cameron of Toronto, Dr. F. N. G. Starr of Toronto acting as secretary. After the routine business was transacted, Dr. A. J. Johnson presented the report of the Committee on Arrangements, for the guidance of visiting members to the city.

SIGNIFICANCE OF BOVINE TUBERCULOSIS.

PROF. J. GEORGE ADAMI, of McGill University, Montreal, read a paper on the "Significance of Bovine Tuberculosis and Its Eradication and Prevention in Canada." He pointed out that, in connection with this, three main questions have to be asked and answered: 1. Is tuberculosis in cattle a source of danger to other cattle, so as to seriously affect their well-being and to be a source of loss to the owners? 2. If infectious from animal to animal, is it infectious from animal to man and thereby a grave source of danger to the human race? 3. If infectious from animal to man, what are the commonest modes of infection and, as a sequel to this, how are we to diminish the danger?

To the first question he gave an unqualified affirmative answer and further stated, we have abundance of evidence here in Canada that the introduction of an infected bull into a herd previously free from the disease, has been followed within a short time by symptoms of the disease in members of the herd. He then proceeded to compare statistics between Canada, Berlin, Leipsic, Saxony, Bavaria, England and Scotland, to the infinite advantage of his own country. These were taken from slaughter-house records. In Leipsic alone, from 1868 to 1895, the spread of the disease, according to tables by Professor Conn, shows a growth of from 11.1 to 33.3 per cent. Comparing these with statistics of our own country, he stated, no country could point to such favorable results as in Canada. Of 90,000 cattle inspected at Montreal in 1894, only sixty animals were rejected by the inspectors and, of these sixty, two were recognized as suffering from tuberculosis, and even in these this was local.

The Doctor emphasized the importance of keeping all imported cattle for breeding purposes in quarantine for at least seven weeks, when, if at that period they fail to react to the tuberculin test, they may be handed over to their owners. He then considered the results of this disease on the animal itself as to its value as a milker, breeder and meat giver.

His answer to the second question was unhesitatingly affirmative, but he thought the reliable evidence of direct transmission of tuberculosis from cattle to man, singularly slight. After demonstrating the differences between bacilli gained from the human and bovine species, he took up the question of children developing the disease through the alimentary canal, by the milk of tuberculous cattle, and stated that there was a lack of positive evidence afforded in these cases. So far as he can see there is no large tract of country in the North Temperate Zone in which cattle are so free from tuberculosis as are the Canadian cattle. In 1894, the lungs of 2504 animals were examined in the abbatoirs of Montreal, St. Johns, N. B., and Halifax, N. S., and among these there were only fourteen cases of tuberculosis, a percentage of 0.6. No other country can show such low figures. Speaking of prevention, a corps of inspectors might be empowered to make complete and perfect visitations, kill off all animals showing clinical evidence, isolate or buy at full value and place on government reserves all animals reacting to tuberculin.

The discussion on the different matters dealt with in the paper was by Professor Oldright of Toronto University, Dr. J. J. McKenzie, bacteriologist to the Ontario Provincial Board of Health, Dr. Clarence Starr of Toronto, Dr. Turnbull of Pennsylvania, Dr. P. H. Bryce, secretary of the Provincial Board of Health of Ontario, and Drs. Roddick and F. Montizambert of Ottawa.

RESULTS ALREADY ACHIEVED AT THE MUSKOKA COTTAGE SANITARIUM.

DR. J. H. ELLIOTT, medical superintendent of this institution, presented this topic, giving the results already achieved there and a detailed historic review of the establishment of this institution, with the present methods of management. He stated, in his classification of cases, that he followed Trudeau, employing the terms incipient, advanced and far advanced. On discharge they are classified under the terms: "Apparently cured," "disease arrested," "improved," "stationary," "failed" or "died." After defining these terms, the Doctor gave a statement of 72 cases discharged during the last nine months of the year up to June 30, 1899. The average stay was 152 days. Of the 72 cases, 61 had bacilli on admission and 47 had them when discharged. A total of 25, or 35 per cent. of those treated, had no bacilli on discharge. Of the 72, 83 per cent. gained in weight, the average gain being 11½ pounds. The maximum gain for one month was 18 pounds, and the maximum total gain 43 pounds. This, Dr. Elliott stated, was a much more satisfactory result than achieved in the first year of the institution's history. Of the 17 incipient cases, 11 or 65 per cent. were apparently cured; 80 per cent. might have been with a longer stay. From twelve to eighteen months have now elapsed since the discharge of the patients of the first year. Twelve were reported apparently cured, and in none of these has there been a return of the cough, and all are in perfect health.

The treatment, broadly speaking, is rest when pyrexia is present, regulated exercise in apyretic cases, suitable diet, and hygiene and fresh air the entire twenty-four hours daily. There is constant supervision of the patient's daily life.

Dr. Powell of Ottawa, Dr. Lafferty of Calgary, N. W. T., Dr. N. A. Powell of Toronto, and Dr. T. H. Adams of Toronto discussed this paper.

FIRST DAY—AFTERNOON SESSION.

"CHRISTIAN SCIENCE."

Prof. J. H. Richardson of Toronto University was the essayist on this subject, and the manner in which he dealt with Eddypathy was singularly effective. He elicited a good bit of hilarity from his auditors when he announced that this illustrious, or rather notorious, expounder of this "ridiculous muss," as he styled it, had thrice been left a widow. His remarks were closely followed, being both humorous and sober.

PRESIDENT'S ADDRESS.

DR. I. H. CAMERON delivered a scholarly address, taking for his subject the overcrowding of the profession and the means necessary to overcome this evil. He pointed out that all students, before entering on medical studies, should have a good English education. This would no doubt keep out undesirable practitioners. He also thought the younger men were not showing the respect due the older members of the profession. He spoke of the high compliment paid the medical fraternity when Her Majesty conferred the honor of knighthood on three members of the profession in England, Michael Foster, Burdon Sanderson, and Mitchell Banks, and he referred feelingly to the recent deaths of prominent members of the Association in Canada.

AN EXPERIENCE IN FORMALDEHYDE DISINFECTION.

DR. F. MONTIZAMBERT, director-general of public health, Ottawa, read an interesting account of the recent smallpox outbreak on board the *Lake Huron*, twenty-five days out from port on the Black Sea. The vessel had 2400 Doukhobors on

board, bound for northwestern Canada, and was ordered into quarantine. All of the passengers were landed on June 9, just three days after the vessel was first sighted, and a new crew was in charge by June 14. For disinfection, formaldehyde was used, and twelve ounces of this solution was allowed for each 1000 cubic feet of space. Two and one-half months have since elapsed and there has not been reported a single outbreak of the disease.

MASSAGE AND RELIEF OF EYE STRAIN IN THE TREATMENT OF GLAUCOMA.

DR. GEORGE M. GOULD, Philadelphia, Pa., contributed a paper on this topic. He illustrated his work in this direction by citing several cases he had treated in this manner, with beneficial results in all. By this method of massage, in these cases, all spaces with venous and lymph stasis are cleared and broken. He fully described how this massage was performed with the soft parts of the thumbs and tips of the fingers. At the conclusion of his paper, Drs. Reeve and Burnham complimented him on his results in this direction.

TREATMENT OF ACUTE DIGESTIVE DISORDERS OF INFANCY.

DR. A. R. GORDON, Toronto, read a paper with this title. After going carefully into the causes of these disorders, and describing them fully, he detailed his treatment. He thought that cow's milk should be the very last of the diet to be followed, while some of the malted foods might be used first. He dwelt on the importance of purgatives, such as calomel, castor-oil and gray powder, to be first employed to clear the alimentary canal; also washing out the stomach and flushing of the rectum and colon. Even after the child is showing signs of recovery, phosphate of soda or aromatic syrup of rhubarb might be used to keep the bowels in condition. He was dubious about the employment of antiseptics, considering bismuth, in large doses, the best sedative, and opium indicated in some cases.

DR. HOLMES, Chatham, Ont., contributed to the discussion by relating his experience and the good results achieved from systematic bathing and cold sponging.

DR. BENEDICT, Buffalo, N. Y., deprecates antiseptics, and never gives opium to children. He has found catnip tea a good sedative.

A CASE OF SUBCUTANEOUS EMPHYSEMA.

DR. FRED FENTON, Toronto, reported this case, which occurred in a child 6 months old. It began at the junction of the clavicle and sternum and spread over the neck, face and head, and downward over the chest and abdomen, to Poupart's ligament on either side. At the autopsy, the lungs, spleen and liver were found tuberculous. The child had had two or three attacks of acute bronchitis between 3 and 6 months of age. The father, aged 50, was tuberculous.

SPECIFIC IRITIS.

DR. G. H. BURNHAM, Toronto, gave the histories of the successful treatment of three cases of specific iritis by his combined plan of treatment. He employs pilocarpin, hypodermically, 1/10 to ¼ grain. This is given in a series of sittings of from ten to fourteen injections. The intervals between sittings range from three to eight weeks. During this time the patient is having the bichlorid and iodid of potash administered internally. The patient is made comfortable in a room at 75 degrees before each injection. This procedure requires from three months' time to three years, according to each case. In some cases, a few months' treatment will suffice.

BEST METHOD OF DEALING WITH THE CONSUMPTIVE POOR.

DR. E. J. BARRICK presented this subject. He advocated governmental sanitaria and the levying of a tax, if necessary for their maintenance. Each county, or at the least a group of three or four counties, should have a sanitarium for this class of cases.

DR. BRITTON, Toronto, took issue with Dr. Barrick on this subject, and thought the hospitals should deal with these cases.

The attendance for the first day was about three hundred.

(To be Continued.)

Miscellany.

Spotted Typhus.—To prevent the spread of spotted typhus in the Caucasus, where so many persons go to seek work, from the famine-stricken districts of Russia, quarantine inspection and disinfection of cars and baggage has been ordered.

Intoxication from Silk Waist.—A robust young woman recently died with symptoms of intoxication ascribed to a green silk waist. The perspiration made the color come out under the arms, where there happened to be some pimples.—*Vienna Freie Presse*, August 11.

Pathology in Art.—Several portraits by Titian and Velasquez are pronounced types of neurasthenic subjects, and the recent exhibition of the collected works of Lucas Cranach has called attention to the rounded backs of the women in the days before the corset was invented. Scoliosis is apparent in at least one portrait.

Temperance Restaurants.—One of the practical results of the international antialcohol congress is the opening of a subscription for temperance restaurants, by Dr. Legrain, physician-in-chief at Ville-Evrard. One subscriber gave $5,000, and a home-like restaurant has been opened in a poor neighborhood in Paris, with reading and lounging rooms. The prices are very low, and a single glass of wine or beer is served with the meals, none at other times, but tea, chocolate and coffee can be had at any time for from 1 to 2½ cents. The success of the "Petits Repas Hygieniques," as it is called, has amazed even the most enthusiastic promoters.

Queries and Minor Notes.

PRACTICE IN CALIFORNIA.

TOPEKA, KAS., Aug. 29, 1899.

To the Editor:—Will you kindly inform me of the requirements of the law to practice medicine and surgery in California? Very truly yours,

H. O. T.

ANSWER:—Any one intending to practice in California must present his diploma to one of the three state examining boards—regular, homeopathic or eclectic—with affidavit relative to medical studies pursued. If the diploma and affidavit are found satisfactory and genuine, a certificate will be issued, for which a fee of $5 is required. The applicant must also present an affidavit that he is the lawful possessor of the diploma and is the person named therein. The boards meet monthly, at the offices of their respective secretaries. For blanks or for additional information address the secretary of the Board of Medical Examiners. The secretary of the regular Board is Dr. C. C. Wadsworth, 1104 Van Ness Ave., San Francisco, Cal.

RAILWAY HYGIENE.

DENVER, COLO., Aug. 16, 1899.

To the Editor:—Interested as I am in railway surgery, I am seeking information on the subject of hygiene in its application to railway service and travel. Can you refer me to any literature on the subject?

Very truly yours, W. W. G.

ANSWER:—The subject of railroad hygiene is rather a wide one, but it has as yet apparently not been treated in a monographic way in our language. There was a work published in London in 1867, by Fletcher, on railways in their medical aspects, but that is hardly modern. Its literature is scattered through a large number of journals in various languages, only a comparatively small portion of it, it would seem, in our own. The most extensive recent memoirs noticed in the "Index Catalogue" and *Index Medicus* are those of Braehmer, "Handbuch de Hygiene," Jena, 1896-7, vi, pp. 239-311, and the reports of the International Conference on Railway Sanitation, etc., Brussels, 1898. A number of valuable articles bearing more or less directly on the subject have been published in this country, as those of Conn on "Car Sanitation" (JOURNAL, xxiii, 1894, p. 757), and elsewhere on "Hygiene of Railroad Employes"; of Lemen, on "Sanitary Regulations of Railroads" (Ibid, xxvi, 1896, 102); and of Pritchard on "Diseases of Railroad Men" (Ibid, xxviii, 1169). The list of titles covers over a page in the "Index Catalogue" (First series).

ST. LUKE'S HOSPITAL AGAIN.

KANSAS CITY, MO., Aug. 25, 1899.

To the Editor:—The St. Luke's Hospital Association of Niles, Mich., are representing some one, whom they style "Professor of Surgery in the Kansas City Medical College," a member of their staff. This is misrepresentation. No one associated with the Kansas City Medical College, has been admitted to the "honorable ranks," holds an "artistically lithographed certificate of membership," nor is in the slightest manner connected with the above named hospital. Yours truly,

FRANKLIN E. MURPHY, Secy, Faculty Kansas City Med. Coll.

PRACTICE IN SOUTH CAROLINA.

WILLIAMSBURG, KY., Aug. 14, 1899.

To the Editor:—What are the regulations of the State Board of South Carolina governing the practice of medicine? E. S. M.

ANSWER:—All applicants for a state certificate to practice are examined, provided they hold diplomas from reputable medical colleges or schools, in the following branches: Anatomy, general and regional physiology and histology, chemistry, toxicology, practical urinalysis, materia medica and therapeutics, surgery and surgical pathology, practice and diseases

of children, obstetrics and gynecology. An average of at least 75 per cent. on the whole list of subjects must be obtained by each applicant and he must not make less than 60 per cent. in any one branch. Examinations are held in May, on the third Tuesday, at Columbia, and elsewhere as may be necessary. The fee for examination is $5, which is refunded if the applicant fails to pass. Temporary licenses are granted after an oral examination.

THE WIDAL TEST.

NEWCASTLE, COLO., August 17, 1899.

To the Editor:—Just what is required and how is the "Widal Test" for typhoid fever made? If this is asking too much, where can I secure the information? W. G. L.

ANSWER:—The Widal test, as modified by Wyatt Johnston, is given in Hare's "Practical Diagnosis" as follows: "The lobe of the patient's ear having been pricked, the drop of blood is placed on a clear glass slide and allowed to dry. A loop (drop taken up by a loop of platinum) of bouillon culture of the typhoid bacillus is now placed on an absolutely clear cover-glass and to this is added a large drop of a watery solution of the dried blood. From the mixture of blood and typhoid bouillon a "hanging drop" preparation is made and examined with a one-sixth or one-eighth dry objective when it will be noticed, if the patient is suffering from typhoid fever, that the typhoid bacilli rapidly forms clumps."

As described by von Jaksch, in his "Clinical Diagnosis," twenty-five drops of Koch's nutrient bouillon are deposited by means of a platinum loop on an ordinary microscope slide and each drop is then inoculated with a young typhoid culture, previously examined under the microscope to make sure of the bacilli being in active motion. A drop of the suspected blood-serum is added and the whole well mixed together and one drop placed in the cavity of a glass slide and examined under an oil-immersion lens. Von Jaksch prefers this 1-25 dilution as better than higher ones that may react only with severe infection or lower ones that are not decisive for typhoid. The macroscopic test as given by him is as follows: 5 c.c. of Koch's nutrient bouillon sown with typhoid bacilli from fresh culture—under one day old if possible—are mixed with five drops of serum. If this be a typhoid patient it will be noticed that the sample turns turbid, the liquid becomes flocculent, and in twenty-four hours the bottom of the test-glass will be covered with a flaky sediment.

Widal's reaction is probably not exclusively met with in typhoid, but its occurrence in other disorders is exceptional and not so characteristic. The status of the reaction on medical opinion was stated rather fully in an editorial in the JOURNAL of April 15, last. We would advise our correspondent to read R. C. Cabot's work on "The Serum Diagnosis of Disease," published by Wm. Wood & Co., New York. The price is $1.50.

STILL MORE COMMERCIALISM.

In this column last week, under the caption "For Sale to the Highest Bidder," we published a letter from a physician asking for bids for his patronage. We did not publish the doctor's name, although we believe we ought to have done so, as it would then have given those surgeons who give bribes for patients—if there are any—a chance to make a bid.

Apropos of this kind of commercialism we have just received a letter from Dr. C. D. Wescott, Chicago, in which he says: "Enclosed I hand you a letter which I am sure will interest you. I know nothing of Dr. D., save that he is a homeopath living on the west side." Accompanying the above is a mimeograph circular letter supposed to have been written by the general manager of a mineral water company. The letter says: "It has been suggested that we make a special proposition to prominent medical men, something like this: We pay you fifty cents per case for all orders received through your aid. The average number of cases now being used by the patients is about ten each; consequently you will observe, it will not require many customers to largely increase your revenue. Please advise us at your earliest convenience if this proposition interests you. You can easily send us names of people to whom we will send circulars, and if you like, we will attach a slip saying: 'Show this circular to your physician, and ask his opinion of the analysis of this natural water.' That will give you an opportunity to both recommend and endorse the water to mutual benefit.

"P. S.—Dr. T. C. D——, of Chicago, mentioned your name favorably to us."

Note what a smooth game they propose to work by the "slip": "Show the circular to your physician and ask his opinion of the analysis of this natural water." The question arises: Can such an outrageous insult to honesty and intelligence be met as it ought to be? It is a species of bribery, and a low species at that.

In the same mail came the following:

PEMBERVILLE, OHIO, Aug. 28, 1899.

"I enclose herewith a letter and folder which I have just received and which are self-explanatory. You may well believe I was thoroughly disgusted with their contents and the liberal 'proposition' made by this 'hereditary' specialist.

"Believing that it is the duty of self-respecting physicians to expose these 'bleeders' whenever they make such propositions, I forward these to you at once with the request that you make public in your esteemed JOURNAL the liberality of this great reformer of 'exploded' theories. I wish to express my appreciation and emphatic endorsement of the warfare or rather crusade which you are making against this class of persons. I trust you will favor me by lending your great influence against this man. L. P. H. BAHRENBERG, M.D.

Following is a copy of the letter sent to Dr. Bahrenberg:

"*Dear Doctor:*—I realize that the treating of cancer patients is very disagreeable to many physicians, and thinking that you might be one of the many who do not care to treat cancer patients, I take the liberty to write you and make you a proposition:

"Any person afflicted with cancer who may call on you for treatment, if you will bring or direct them to my sanitarium, I will give you 10 per cent. of the money I receive for treating each patient you may send to me.

"My charges for treating and curing a cancer are from 50 to 250 dollars. Kindly let me hear from you."

Circulars and "pictures" tell what wonders are being done by this miracle-worker. "My father and grandfather cured cancer when I was an infant," he tells us, and for this reason, as the circular says elsewhere, he is, "by inheritance, by intuition, by study, and by a broad and varied experience, thoroughly qualified to practice my specialty—treating and curing all forms of cancer." Further comment will be made later.

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., to and including August 24, 1899:

Robert W. Andrews, appointed lieutenant and asst.-surgeon Vol., to rank from August 7, 1899, and assigned to the 46th Inf. Vols., at South Framingham, Mass.

Frank E. Artand, appointed captain and asst.-surgeon, Vols., August 17, 1899, and assigned to the 45th Inf. Vols., at Fort Snelling, Minn.

Charles L. Baker, acting asst.-surgeon, from Leetown, W. Va., to Washington, D. C., reporting to the surgeon-general for instructions.

Shadworth O. Beasley, appointed lieutenant and asst.-surgeon, Vols., August 10, 1899, and assigned to the 11th Cav. Vols.

Edward G. Beeson, appointed lieutenant and asst.-surgeon, Vols., August 17, 1899, and assigned to the 39th Inf. Vols., at Fort Crook, Neb.

William Duffield Bell, appointed captain and asst.-surgeon, Vols., August 17, 1899, and assigned to the 42d Inf. at Fort Niagara, N. Y.

William F. Bernart, acting asst.-surgeon, to duty at the Army and Navy General Hospital, Hot Springs, Ark.

R. M. Bonar, acting asst.-surgeon, from Hebron, Ohio, to duty in the Department of California.

Ira C. Brown, major and surgeon, Vols., from the Division of Cuba to duty in the Department of California.

Euston Burchard, appointed lieutenant and asst.-surgeon, Vols., August 17, 1899, and assigned to the 40th Inf. Vols., at Fort Riley, Kans.

George L. Cable, acting asst.-surgeon, from Matanzas, Cuba, to New York City, to await orders.

Joseph T. Clarke, captain and asst.-surgeon U. S. A., relieved from Madison Barracks, N. Y.; appointed major and surgeon, Vols., August 17, 1899, and assigned to the 47th Inf. Vols., at Camp Meade, Pa.

William Coggwell, appointed major and surgeon, Vols., August 17, 1899, and assigned to the 46th Inf. Vols , at South Framingham, Mass.

Samuel P. Cottrell, acting asst.-surgeon from Camp Meade, Pa., to accompany the 28th Inf. Vols., to Manila, P. I.

George D. DeShon, appointed major and surgeon, Vols., to rank from August 10, 1899, and assigned to the 11th Cav. Vols.

Frederick S. Dewey, appointed captain and asst.-surgeon, Vols., August 17, 1899, and assigned to the 38th Inf. Vols., at Jefferson Barracks, Mo.

Frank Donaldson, appointed lieutenant and asst.-surgeon Vols., August 17, 1899, and assigned to the 45th Inf. Vols., at Fort Snelling, Minn.

E. W. Fowler, acting asst.-surgeon, from the hospital ship *Terry* to duty in the Division of Cuba.

Chas. W. Fry, acting asst.-surgeon, from Huntington, Ind., to Vancouver Barracks, Wash., for duty with the 35th Inf. Vols.

Charles L. Furbush, appointed captain and asst.-surgeon, Vols., August 17, 1899, and assigned to the 44th Inf. Vols. at Fort Leavenworth, Kansas.

Alexander D. Ghiselin, appointed captain and asst.-surgeon, Vols., August 10, 1899, and assigned to the 11th Cav. Vols.

Robert J. Gibson, major and surgeon U. S. A., orders to Manila, P. I., revoked; he is assigned as attending surgeon and medical superintendent of transportation at San Francisco, Cal.

James D. Glennon, captain and asst.-surgeon, U. S. A., relieved from Fort Myer, Va.; appointed major and surgeon, Vols., August 17, 1899, and assigned to the 38th Inf. Vols., at Jefferson Barracks, Mo.

Herman W. Gross, acting asst.-surgeon, previous orders directing him to accompany the 26th Inf. Vols., to Manila, P. I., revoked.

John Sturgeon Hill, acting asst.-surgeon, previous orders directing him to report for duty in the Department of California revoked.

Deane C. Howard, captain and asst.-surgeon, U. S. A., from temporary duty at West Point and from further station at Fort Columbus, N. Y., to duty at Fort Hancock, N. J.

Merritte W. Ireland, captain and asst.-surgeon, U. S. A., relieved from Fort Wayne, Mich.; appointed major and surgeon Vols., August 17, 1899, and assigned to the 45th Inf. Vols., at Fort Snelling, Minn.

Thomas T. Jackson, appointed lieutenant and asst.-surgeon, Vols., August 17, 1899, and assigned to the 44th Inf. Vols., at Fort Leavenworth, Kansas.

D. J. Johnson, acting asst.-surgeon, former orders revoked; he is relieved from Fort Terry, N. Y., and assigned to duty with the 47th Inf. Vols., at Camp Meade, Pa.

George H. Jones, acting asst.-surgeon, from Toledo, Ohio, to Jefferson Barracks, Mo., for duty with the 38th Inf. Vols.

Franklin M. Kemp, lieutenant and atst.-surgeon, U. S. A., from Fort Hamilton to West Point Military Academy, N. Y.

W. L. Kneedler, captain and asst.-surgeon, U. S. A., to duty on the hospital ship, *Missouri*, now at Brooklyn, N. Y.

Henry H. Lee, appointed captain and asst.-surgeon, Vols., August 17, 1899, and assigned to the 46th Inf. Vols., at South Framingham, Mass.

William F. Lippitt, Jr., captain and asst.-surgeon, U. S. A., relieved from Washington Barracks, D. C., appointed major and surgeon, Vols., August 17, 1899, and assigned to the 44th Inf. Vols., at Fort Leavenworth, Kan.

Morris S. Lord, acting asst.-surgeon, to duty at Madison Barracks, N. Y.

Arthur W. McArthur, acting asst.-surgeon, from Chillicothe, Mo., to Fort Niobrara, Neb.

Walter D. McCaw, captain and asst.-surgeon, U. S. A., relieved from

Fort Porter, N. Y.; appointed major and surgeon, Vols., August 17, 1899, and assigned to the 42d Inf. Vols., at Fort Niagara, N. Y.

Thomas R. Marshall, appointed captain and asst.-surgeon, Vols., August 17, 1899, and assigned to the 41st Inf. Vols., at Camp Meade, Pa.

Edward B. Moseley, major and surgeon, U. S. A., previous orders revoked: he is relieved from the Presidio of San Francisco, Cal., and will proceed to Manila, P. I., for assignment.

Edward L. Munson, captain and asst.-surgeon, U. S. A., relieved from duty in the office of the surgeon-general and assigned to Washington Barracks, D. C.

Seaton Norman, appointed captain and asst.-surgeon, Vols., August 17, 1899, and assigned to the 39th Inf. Vols., at Fort Crook, Neb.

Thomas U. Raymond, captain and asst.-surgeon, U. S. A., relieved from duty as attending surgeon and medical superintendent of transportation in San Francisco, Cal., appointed major and surgeon, Vols., August 17, 1899, and assigned to the 40th Inf. at Fort Riley, Kan.

William E. Richards, lieutenant and asst.-surgeon, U. S. A., sick leave extended.

Edward A. Romig, appointed captain and asst.-surgeon, Vols., August 17, 1899, and assigned to the 40th Inf. Vols., at Fort Riley, Kan.

Allen M. Smith, captain and asst.-surgeon, U. S. A., relieved from Fort Hancock, N. J.; appointed major and surgeon, Vols., August 17, 1899, and assigned to the 41st Inf. Vols., at Camp Meade, Pa.

Henry D. Snyder, captain and asst.-surgeon, U. S. A., relieved from post duty; appointed major and surgeon, Vols., August 17, 1899, and assigned to the 43d Inf. Vols., at Fort Ethan Allen, Vt.

Alexander N. Stark, captain and asst. surgeon, U. S. A., to turn over the hospital ship, *Terry*, to the quartermaster's department and report for duty in the Division of Cuba.

Henry R. Stiles, captain and asst.-surgeon U. S. A., from duty with the *Relief* at San Francisco, Cal., and from station at Fort Preble, Me., to duty at Benicia Barracks, Cal.

William J. Wakeman, captain and asst.-surgeon, U. S. A., to examine certain recruits at Camp Meade, Pa.

Philip G. Wales, captain and asst.-surgeon, U. S. A., relieved from Fort Niobrara, Neb.; appointed major and surgeon, Vols., August 17, 1899, and assigned to the 39th Inf. Vols., at Fort Crook, Neb.

Dudley M. Webb, appointed lieutenant and asst.-surgeon, Vols., August 17, 1899, and assigned to the 43d Inf. Vols., at Fort Ethan Allen, Vt.

Odillion B. Weed, acting asst.-surgeon to duty at Fort Wayne, Mich.

George Reeves White, acting asst.-surgeon, from New York City to duty in the Department of California.

Movements of Navy Medical Officers.—Changes in the medical corps of the U. S. Navy for the week ending August 26, 1899:

Medical Inspector C. U. Gravatt, ordered to duty at the New York Navy Yard as member of board of medical examiners, September 5.

P. A. Surgeon C. F. Stokes, detached from duty as member and recorder of board of medical examiners at the New York Navy Yard, September 5, and ordered to continue on duty at the naval hospital, New York.

P. A. Surgeon M. S. Guest, ordered to the Boston Navy Yard.

Pharmacist S. Englander, detached from the Mare Island Navy Yard and ordered to the New York Navy Yard.

Pharmacist L. R. G. Lewis, detached from the New York Navy Yard and ordered home and to await orders.

Marine-Hospital Changes.—Official List of Changes of Station, and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the seven days ended August 17, 1899.

Surgeon Fairfax Irwin, to proceed to Marsailles, France, and Lisbon and Oporto, Portugal, for special temporary duty.

Surgeon Eugene Wasdin, to report at Washington, D. C., for special temporary duty.

P. A. Surgeon H. D. Geddings, to proceed to New York, N. Y., for special temporary duty.

P. A. Surgeon A. C. Smith, to proceed to Hampton, Va., and report to Surgeon J. H. White for special temporary duty.

P. A. Surgeon W. G. Stimpson, to report at Washington, D. C., for special temporary duty.

Asst.-Surgeon T. F. Richardson, detailed as quarantine officer for the port of Neuvitas, Cuba.

Acting Asst.-Surgeon F. J. Schug, granted leave of absence for 30 days from August 15, 1899.

Hospital Steward C. H. Woods, granted leave of absence for 15 days from August 16, 1899.

Hospital Steward S. W. Richardson, to proceed to Birmingham, Ala., for special temporary duty.

Hospital Steward F. H. Peck, to proceed to Hampton, Va., and report to Surgeon J. H. White for special temporary duty.

PROMOTION.

Hospital Steward E. J. Thurston, to be hospital steward and chemist.

BOARDS CONVENED.

Board convened to meet at the U. S. Marine-Hospital, New York, N. Y., at 10 o'clock, A.M., August 16, 1899, for the physical examination of a candidate for appointment in the Revenue Cutter Service.

Detail for the Board: Surgeon George W. Stoner, Chairman; Asst.-Surgeon W. C. Hobdy; Asst.-Surgeon W. C. Billings, Recorder.

A board of officers will be convened at the Service Building, 378 Washington Street, New York City, Wednesday, October 4, 1899, for the purpose of examining candidates for admission to the grade of Assistant-Surgeon in the U. S. Marine-Hospital Service.

Candidates must be between twenty-one and thirty years of age, graduates of a respectable medical college and must furnish testimonials from responsible persons as to character.

The following is the usual order of the examination: 1. Physical. 2. Written. 3. Oral. 4. Clinical.

In addition to the physical examination candidates are required to certify that they believe themselves free from any ailment which would disqualify for service in any climate.

The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists in examination on the various branches of medicine, surgery and hygiene.

The oral examination includes subjects of preliminary education, history, literature and natural sciences.

The clinical examination is conducted at a hospital, and when practicable candidates are required to perform surgical operations on the cadaver.

Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur.

Upon appointment the young officers are as a rule first assigned to duty at one of the large marine hospitals, as at Boston, New York, New Orleans, Chicago or San Francisco.

After five years' service, Assistant-Surgeons are entitled to examinations for promotion to the grade of Passed Assistant Surgeon.

Promotion to the grade of Surgeon is made according to seniority and after due examination as vacancies occur in that grade. Assistant-Surgeons receive sixteen hundred dollars, Passed Assistant-Surgeons two thousand dollars, and Surgeons twenty-five hundred dollars a year. When quarters are not provided commutation at the rate of thirty, forty or fifty dollars a month, according to grade, is allowed.

All grades above that of Assistant-Surgeon receive longevity pay, ten per centum in addition to the regular salary for every five years up to forty per centum after twenty years' service.

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses. For further information, or for invitation to appear before the Board of Examiners, address, Supervising Surgeon-General, U. S. Marine-Hospital Service, Washington, D. C.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General of the U. S. Marine-Hospital Service, during the week ended August 25, 1899:

SMALLPOX—UNITED STATES.

Florida: Jacksonville, August 14 to 29, 1 case.
Louisiana: New Orleans, August 12 to 19, 1 case.
Massachusetts: Boston, August 12 to 19, 2 cases.
Ohio: Cincinnati, August 12 to 19, 2 cases.
Pennsylvania: Allegheny, August 12 to 19, 5 cases.
Virginia: Portsmouth, August 12 to 19, 3 cases.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, July 7 to 14, 11 deaths.
Colombia: Panama, August 1 to 8, 2 cases, 1 death.
Egypt: Cairo, July 15 to 22, 4 cases.
England: London, July 29 to August 5, 1 case.
Greece: Athens, July 29 to August 5, 7 cases, 3 deaths.
India: Bombay, July 11 to 25, 14 deaths; Madras, July 1 to 8, 2 deaths.
Mexico: Chihuahua, August 7 to 14, 1 deaths; Mexico, July 30 to August 6, 4 cases, 3 deaths; Nuevo Laredo, July 5 to August 12, 1 death.
Russia: Odessa, July 29 to August 4, 4 cases, 1 death; St. Petersburg, July 22 to 29, 8 cases.

YELLOW FEVER.

Brazil: Rio de Janeiro, July 7 to 14, 6 deaths.
Costa Rica: Port Limon, August 18, 1 case.
Cuba: Havana, August 3 to 17, 26 cases, 5 deaths; Sancti Spiritu, August 24, 2 cases; Santiago, July 30 to August 12, 10 cases, 5 deaths.
Mexico: Tuxpam, July 31 to August 8, 5 deaths; Vera Cruz, July 27 to August 10, 32 cases.

CHOLERA.

India: Bombay, July 18 to 25, 2 deaths; Calcutta, July 8 to 15, 7 cases.

PLAGUE.

India: Bombay, July 12 to August 25, 121 deaths; Calcutta, July 8 to 15, 3 deaths.
Portugal: Oporto, August 16, 39 cases, 13 deaths.
Turkey: Smyrna, July 30, 4 cases, 3 deaths.

CHANGE OF ADDRESS.

Adams, W. T., to 2453 5th Ave, Pittsburg, Pa.
Ash, J. C., from Chicago to Good Hope, Ill.
Burrell, R. H., from 332 Madison St. to 213 13th St., Ann Arbor, Mich.
Bacharach, H., from Chicago to Faribault, Minn.
Caruthers, J. A., from Hillsboro, Texas to 841 N. Rampart St., New Orleans La.
de Beque, W. A. E., from DesMoines, Iowa to Mexico City, Republica Mexicana, Sucurlas B, Apartado, No. 2067.
Deming, N. L., from 29 E. Berry to 75 W. Berry St., Fort Wayne, Ind.
Engelman, Geo. J., from 336 to 208 Beacon St., Boston, Mass.
Field, W. H., from Martinsburg, W. Va., to 704 2d St., Evansville, Ind.
Forster, J. D., from St. Lous, Mo. to Wellston, Mo.
Frahm, Marie, from Tuscola, to Dole House, Mattoon, Ill.
Goldspohn, A., to 517 Cleveland Ave, Sta. A., Chicago.
Garwin, W. C., from Vassar to Willington, Mich.
Gardiner, W. G., from 1432 to 1455 Erie St., Toledo, Ohio.
Gammon, C. P., from Chicago, Ill. to Pomeroy, Wash.
Grasse, D. F., from Fargo to Adrian, N. D.
Grier, M. J., from Denver, Colo. to 795 Sheridan Road, Waukegan, Ill.
Hotvedt, I. M. J., from Minneapolis, Minn. to Fanch'eng, China.
Herzog, M., from 277 Seminary to 174 E. Chicago Ave, Chicago.
Kenefick, T. A., from New York City to 107 Pelham St., Newport, R. I.
Klokke, W. E., from 235 So. Lincoln St., Chicago, Ill, to 2013 Park Ave, St. Louis, Mo.
Kennedy, F. P., from Dublin to Topaz, Texas.
Lockwood, W. D., from St. Joseph to So. St. Joseph, Mo.
Lull, R., from 1276 Adams to 3907 Prairie Ave, Chicago.
McNamara, F. W., from 612 Dix Ave, to 759 Junction Ave, Detroit, Mich.
McDill, J. R., from 200 Wisconsin to 470 Jackson St. Milwaukee, Wis.
Martin, M. L., from Galveston to Denton, Texas.
Pavis, A. S., from Chicago, Ill. to Tyndall, S. D.
Stagg, W. H., from Washington to Whitehouse, La.
Snow, B. G., from Caldwell to Tamarack Mine Hospital, Calumet, Mich.
Schmidt, Oscar, from Campbellsport to Menasha, Wis.
Tilotson, H. J., 475 Ogden Ave, Chicago to 610 Olive St., St. Louis, Mo.
Veldhuis, J. G., from Great Galls to Ft. Benton, Mont.
Vaden, W. E., from Priest to Triune, Tenn.
Webster, C. S., from 140 Ashland Boul., Chicago, Ill. to 409 E. Prospect St., Cleveland, Ohio.